

THE MILLING WORLD

AND

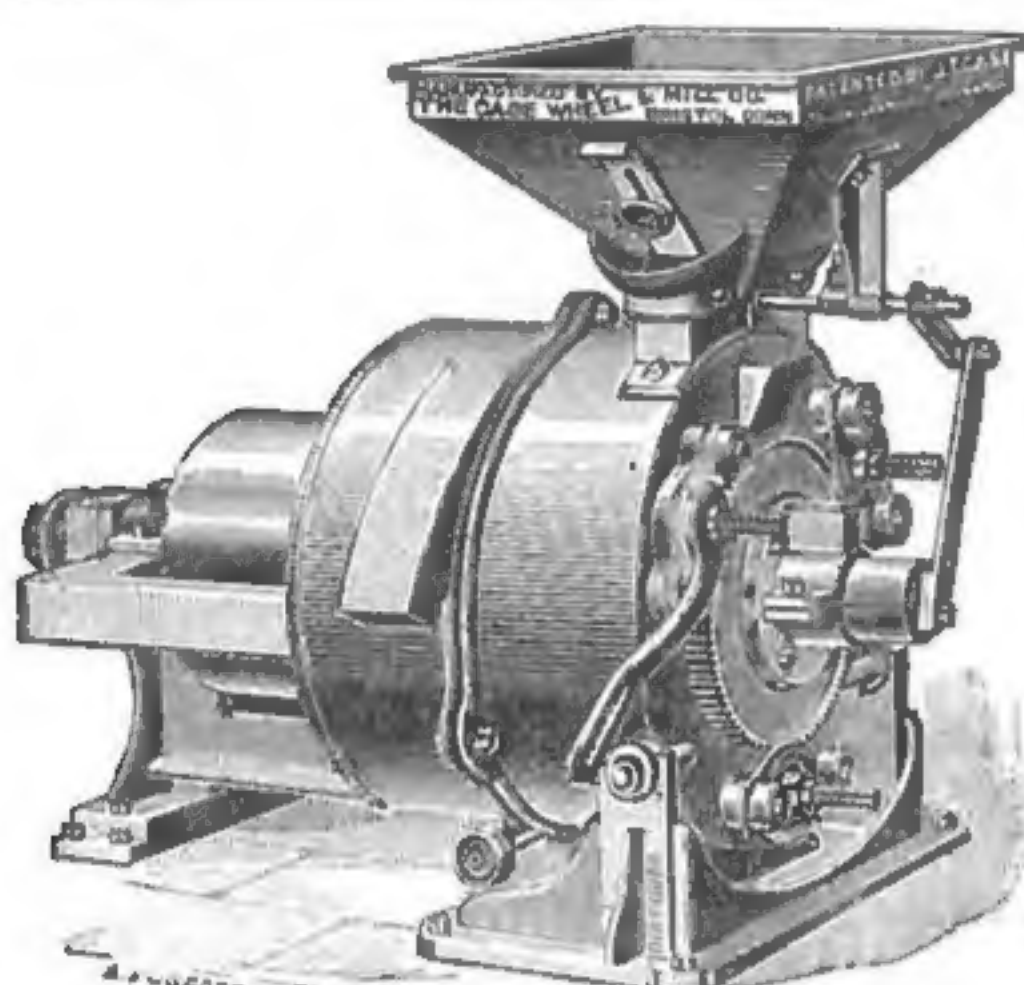
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XXI. No. 5.

BUFFALO, N. Y., SEPTEMBER 30, 1889.

\$1.50 PER YEAR.



VICTORY OVER ALL OTHERS. SINGLE & DOUBLE VERTICAL GRINDING MILLS.

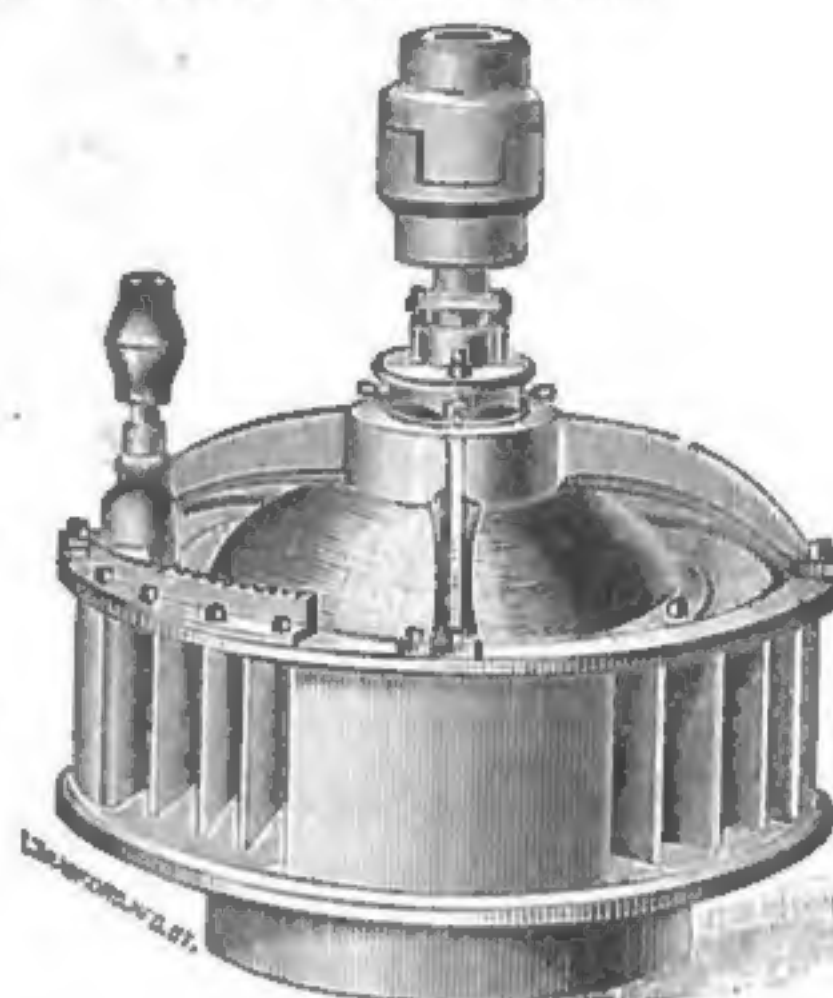
(J. T. CASE'S PATENT.)

FACTS ARE MIGHTIER THAN ASSERTIONS. READ WHAT THEY SAY:

"Our 20-inch mill made by the Case Wheel & Mill Co. is in every respect satisfactory, easy to handle, and best results obtained of any mill in the country, with same quantity coal and power."—A. S. RUSSELL & Co., Meriden, Conn.
 "Superior to any mill in use."—Geo. WESTON, Bristol, Conn.
 "The best satisfaction in quantity and quality."—CHILD'S ELEVATOR, Manchester, Ct.
 "We take pleasure in recommending it."—GARLAND, LINCOLN & Co., Worcester, Mass.
SEND FOR CATALOGUE—ILLUSTRATED AND DESCRIPTIVE.

The Improved National Turbine Water Wheel

The Best for Economy; The Best for Durability; The Best for Power. ONE THOUSAND FIVE HUNDRED NATIONAL WATER WHEELS IN USE Prove that our Assertions are Supported by the Leading Manufacturers in the Country. Send for illustrated catalogue and prices to the manufacturers.



The Case Wheel & Mill Co., Bristol, Conn.

THE SUCCESS

BOLTER AND DRESSER

THE J.B. ALLFREE

TWO-REEL SCALPER

WE BUILD

**FLOUR MILLS,
CORN MILLS
AND
HOMINY MILLS**

WE FURNISH

**EITHER THE
SHORT,
MEDIUM
OR
LONG SYSTEM**

THE ALLFREE

CENTRIFUGAL REEL

THE SUCCESS

CORN MEAL BOLT

THE J.B. ALLFREE SEIVE SCALPER

KEYSTONE

THE ALLFREE CORN MEAL BOLT

FOUR-ROLLER WHEAT MILL

THE KEYSTONE

HULLER AND PEARLER

THE KEYSTONE

PURIFIER AND ASPIRATOR

THE KEYSTONE FOUR-HIGH

ROLLS REGROUND AND REGORRUGATED.

THE ALLFREE AUTOMATIC ENGINE

THE BEST MILL ENGINE IN THE WORLD

THE KEYSTONE

SHAFTING, GEARING, AND PULLEYS

THE LITTLE HOESIER

CORN CLEANER

THE KEYSTONE

FLOUR PACKER

THE J.B. ALLFREE

FLOUR PACKER

SEND FOR A NEW ILLUSTRATED CATALOGUE.

ADDRESS, THE J.B. ALLFREE CO.

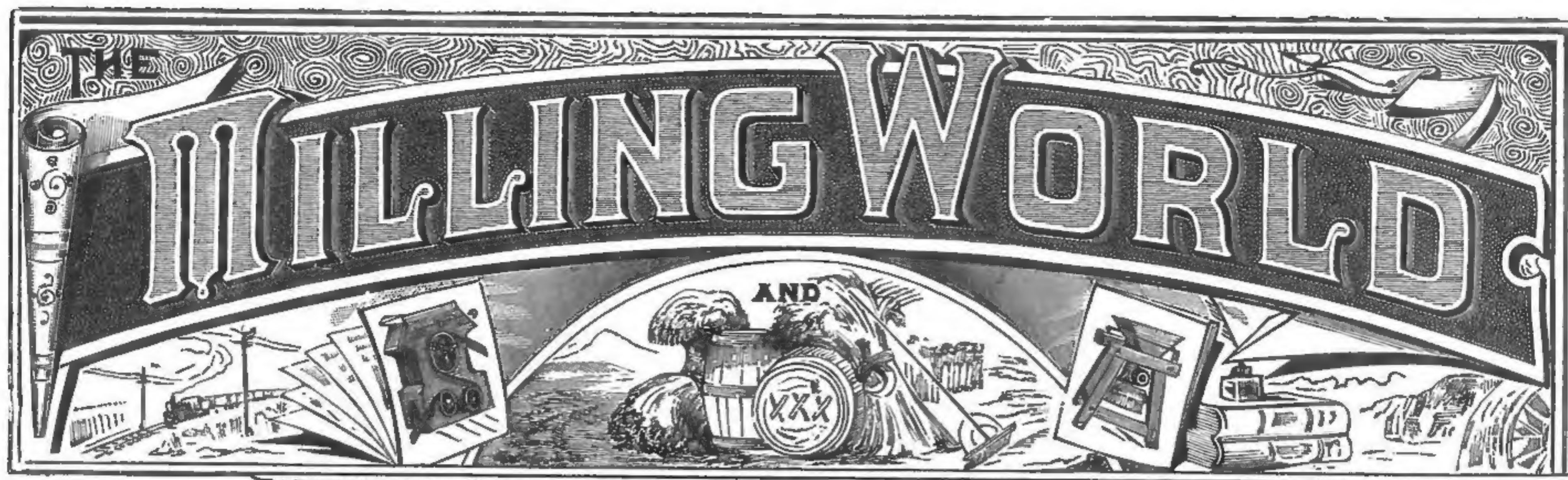
INDIANAPOLIS, IND. U.S.A.

CASE.

CASE MFG. CO., COLUMBUS, O.
GENTLEMEN: If we were to build a hundred mills we
would not permit any other than the "CASE" roll to
enter them. They are the best roll on earth.
Yours truly,
W. C. MANSFIELD & CO.

W. C. MANSFIELD & CO.,
MERCHANT MILLERS,
CLEVELAND, TENN., AUG. 29, 1889.

CASE.



CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XXI. No. 5.

BUFFALO, N. Y., SEPTEMBER 30, 1889.

\$1.50 PER YEAR.

As usual there is a great deal of uncertainty concerning the amount of wheat grown in the world in 1889. One "authority" figures out a yield of 1,944,600,000 bushels, and another figures out 2,341,700,000 bushels. Several other "expert authorities" figure out a crop ranging between those two extremes. Meanwhile, no living man can tell within 500,000,000 bushels what is the actual wheat crop of the season of 1889.

ACCORDING to the "official" figures, the "expert estimates" and the "generally accepted" belief this country had on hand on July 1 about 13,000,000 bushels of wheat in "visible supply" and a "small" but of course unknown amount in farmers' hands. Look at what has happened: We have a population of 65,000,000. Each one consumes about five-twelfths of a bushel a month, or a total of 25,000,000 bushels a month for the whole population. During July and August the consumption would amount to at least 50,000,000 bushels, and during those months the exports amounted to nearly 20,000,000 bushels, making at least 70,000,000 bushels of old grain used before the new-crop grain began to go into consumption. More curious still, the "visible supply" at the end of the two months was still about as large as at the beginning, and it was still mostly old wheat. What is the matter with the grain statistics of this country? Are the compilers careless, or do they merely guess at their work? Or is the American wheat crop rendered elastic by some miraculous agency, like that which kept the widow's oil-cruze replenished?

NIAGARA river is still flowing, unharnessed, unemployed, unsubdued, and the mechanics, inventors and cranks, who have been cudgeling their brains to evolve a "harness" for the majestic stream, have packed up the traps which they showed at the Buffalo fair in September and gone home, not carrying with them the desirable \$100,000 prize that has thrown them into an inventive frenzy for months past. To an unprejudiced observer, who has carefully studied the Niagara river and the "harnesses" shown at the fair, it would seem that not one of the inventors came dangerously close to being struck by that \$100,000 lightning. Some of the contrivances, which are warranted by the contrivers to run with any power and under any circumstances, seemed incapable of being forced to run with any power or under any circumstances. All of them ran well on paper. Some of them ran well in the miniature Niagara prepared for them at the fair. Others of them mulishly refused to run at all. Those that would run would not answer for use when the Niagara is running with Lake Erie ice-fields, and that fact made them quite as useful and as useless as the others that ran not at all in miniature. Meanwhile the great river is flowing past Buffalo at the rate of 10,000,000 to 18,000,000 tons an hour, and all the magnificent potentiality of its resistless current is unutilized. There is still a chance for "the" genius of the nineteenth century. Where is he? Who is he?

THE managers, or mismanagers, of the Millers' National Association of the United States may learn one very valuable and most decidedly important lesson from the conduct of the British and Irish millers at their annual conventions.

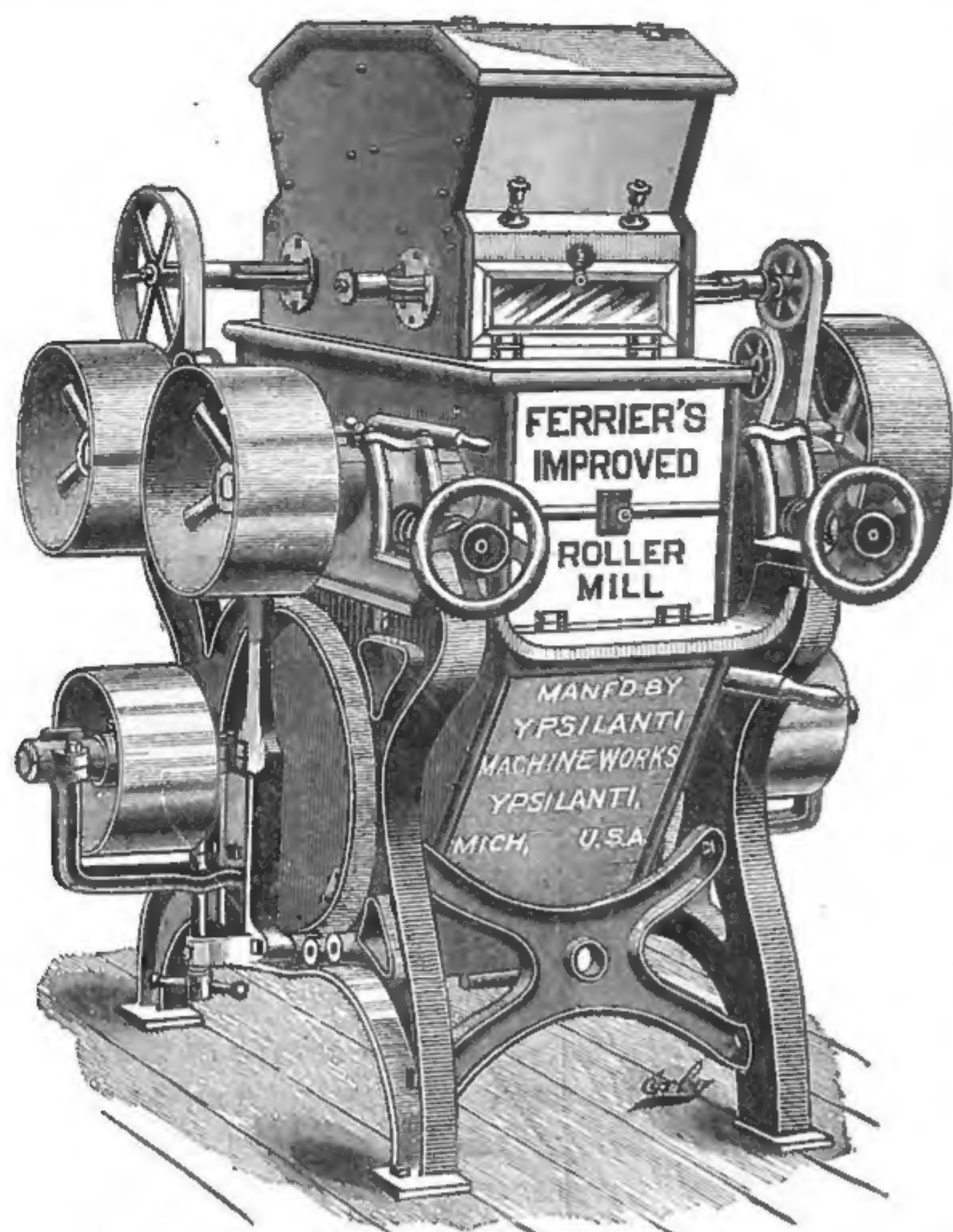
At the recent meeting of the British and Irish millers in Paris, France, the usual prominence was given to the scientific features of milling, and one of the papers, that on color in flour, was one of the most valuable essays on a milling subject that has been published in years. Mr. J. Murray Case, the well-known American inventor, engineer, millwright, miller and scientific man in general, presented another valuable paper, and on the whole the technics of milling received proper attention. This is a course of action which may well be copied by our own association, whose managers have for years utterly ignored the scientific, the practical, side of their occupation and devoted their time and attention wholly to the export and handling of flour alone. Should the next annual convention of the American association follow the course of the last two conventions, the organization will evaporate. Should practical work be recognized in the programme, it might result in exciting new interest in the organization. Some friends of the association should use enough influence with the managers to induce them to follow the worthy example set by the British, French, German and Austro-Hungarian milling conventions in recognizing the practical side of the important work of flour-making.

THE Minneapolis Chamber of Commerce complains because it can not get correct reports of the flour shipments from railroads. Well, do the estimable gentlemen who constitute the Minneapolis Chamber of Commerce ever stop to ask themselves what right they have to nose into the business of railroads? Do they ever find the railroads nosing into the private affairs of the gentlemen mentioned? Is there any good, just, sane, equitable, constitutional reason why the private affairs of the railroads should be subjected to unpleasant espionage by Chambers of Commerce, Boards of Trade, Interstate Commissions or any other collections of estimable gentlemen, every one of whom would indignantly resent any encroachment upon their own privileges and any intrusion into their own private affairs by railroad managers or any other individuals? Let the railroad presidents combine, call themselves by some high-sounding name and then proceed to quiz the members of the complaining committees, boards and chambers upon their private affairs, with the avowed purpose of publishing the answers, and what a howl there would be! Yet the railroads are to endure in silence and patience the absolutely intolerable meddling of any men or collections of men who may set themselves up in business as meddlers with the affairs of others! It is just barely possible that even railroad companies have some rights which even irresponsible "natural born" meddlers ought to be forced to respect. To-day, in the United States, from one end of the country to the other, there is an organized attack on the railroads. Men who have not enough intelligence to run wheelbarrows on gravel-banks set up to instruct or destroy the railroad companies, and they are empowered to destroy, instruction being out of the question, by other demagogues who make the laws. It will all end in disaster. The public will simply repeat the old, old idiom of cutting off its own nose to spite its own face.

YPSILANTI MACHINE WORKS, YPSILANTI, MICH. MILL BUILDERS

And Manufacturers of

FLOUR MILL MACHINERY



Sizes of Ferrier's Improved Four-Roller Mills.

6x12	6x15	6x20
9x15	9x18	9x24

YPSILANTI MACHINE WORKS, YPSILANTI, MICH.

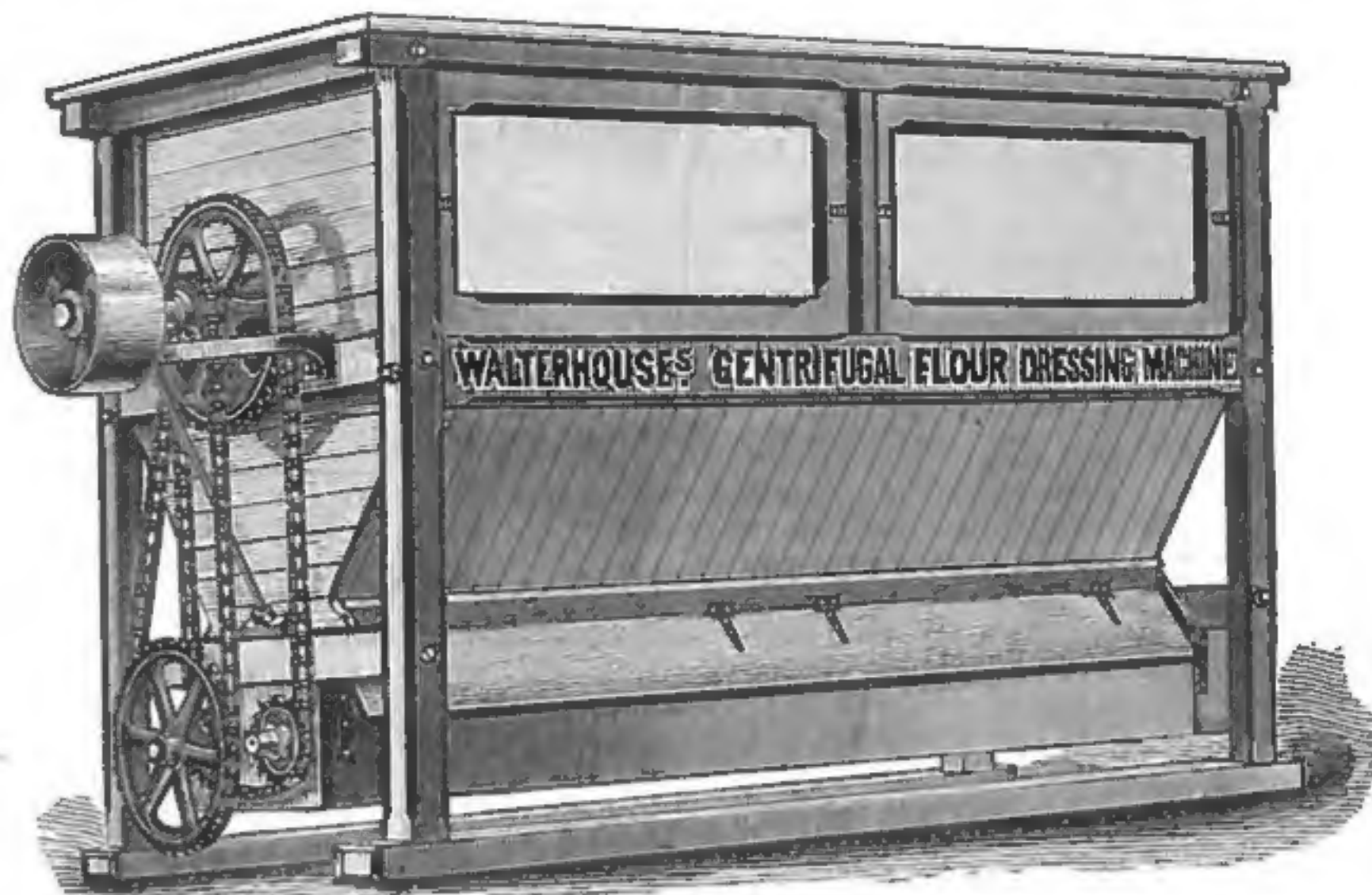
Gentlemen: We have had a line of your "Roller Mills" in use for over two years, and they have given entire satisfaction in every respect. They work like a charm, and their ease of adjustment and solid structure, together with the excellent finish you give them, can but recommend your machines to the milling public.

Yours respectfully,

A. R. DICKINSON & CO.

NASHVILLE, TENN., MAY 8, 1889.

Dealers in Bolting Cloth. Walterhouse's Centrifugal; Walterhouse's Slow-Running Flour Dresser with Inside Cylinder; Plain Round Reels; Scalpers, Bolting Screens, Etc., Etc., Etc.



JOHN ORFF, PROPRIETOR OF
EMPIRE FLOURING MILLS.
FORT WAYNE, IND., APRIL 10, 1889.

YPSILANTI MACHINE WORKS, YPSILANTI, MICH.

Gentlemen: The Centrifugal Reel bought from you some time ago is doing its work complete in every respect. It does a large amount of work, and does it well. Should we make further changes in bolting, shall use more of them. Wishing you success, we remain,

Respectfully,

JOHN ORFF.

TO YPSILANTI MACHINE WORKS.

OFFICE OF LEXINGTON MILL CO.,
LEXINGTON, MICH., JAN. 22, 1889.

Gents: In reply to yours of June 5th, would say that we are well pleased with our mill. It has more than met our expectations. Although it was feared that the six-inch rolls would not prove a success, we find them to be complete in every respect. We are making as fine a flour as there is made in the state, and we guarantee our patent to be equal to Minnesota Patent. The mill has given us no trouble whatever since we started it, and for plan and workmanship, your Mr. G. Walterhouse deserves great credit. If your friends doubt it would be pleased to have them come and see for themselves.

Yours respectfully,

LEXINGTON MILL CO.

Dawson's Roller Mill

Is acknowledged to be the very best in the market. It has our Patent Automatic Centrifugal feeder, never failing to feed the stock the full length of rolls in an even sheet. It is the Latest and Best feed out, uses less power and is simple in construction. It can be placed on any style of machine with little expense. We use for roll bearings phosphor-bronze metal which will admit rolls being run at any speed without heating and with little friction, and uses little oil. We use the Dawson Corrugation, which is admitted the best in long or short system mills as the action is granulating rather than CUTTING.

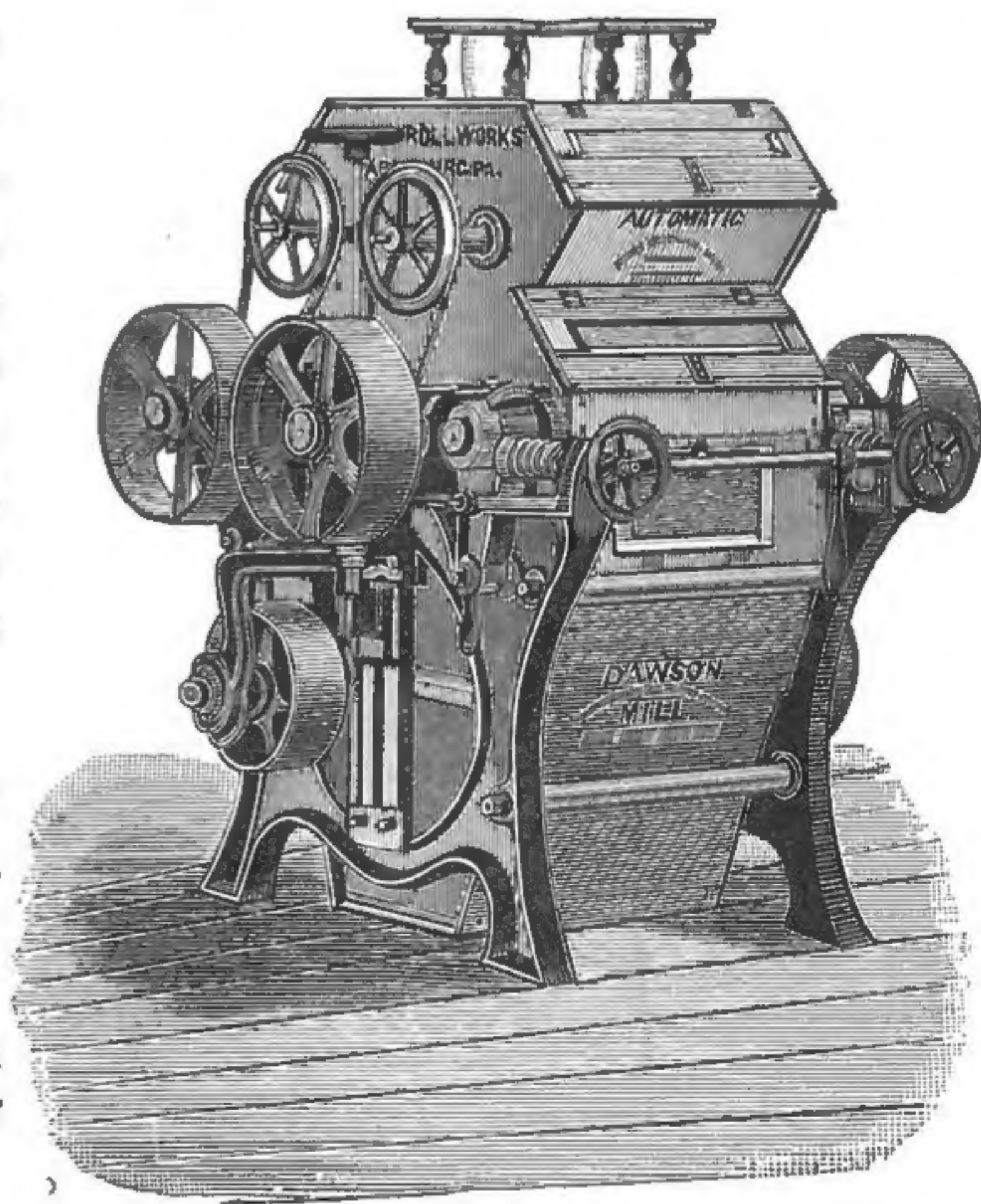
We have a large plant to Re-grind and Re-Corrugate Rolls.

Owing to our late increased facilities and central location we are enabled to ship goods promptly on the shortest notice.

PARTIES CONTEMPLATING REMODELING THEIR MILLS OR BUYING ANY ROLLER MACHINES ARE REQUESTED TO PUT THEMSELVES IN CORRESPONDENCE WITH US.

FOR PRICE LISTS AND CIRCULARS, ADDRESS,

Dawson Roll Works, Harrisburg, Pa.





PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,
Over Bank of Attica.
McFAUL & NOLAN, - - - PROPRIETORS.
THOMAS McFAUL. JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in unregistered letter at sender's risk.
To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application.
Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

THE MILLING WORLD,
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

WANTED.

Western New York, Ohio and Pennsylvania mills in want of a temperate miller, with 20 years experience, should write to the undersigned, who is now running a first class mill, but would like to make a change this fall. Address, W., care of THE MILLING WORLD. 56

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

WANTED.

A miller with some capital to help stock with, to take charge and run my mill. Address LOCK BOX 985, Clearfield, Clearfield county, Pa 1720

FOR SALE.

Flour-mill, corn-mill and cotton-gin, in a new growing country, splendid for wheat. Good opening for a mill-man who understands the business. For particulars apply to W. J. MILLER & CO., Ballinger, Texas. 2023

FOR SALE.

Several good second-hand and new turbines of various styles. Second-hand price list and descriptive matter and prices of our new machines sent free. Every one interested in the shortest route to successful milling on rolls or in grinding corn and feed with the least expense of power, should address us before buying.

8cf

FLENNIKEN TURBINE CO.,
Dubuque, Iowa.

MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.
One 20-Inch Under-Runner Portable Mill, French Buhr Stone, capacity 10 to 12 bushels per hour; new, best make.
One 14-Inch Vertical Feed Mill; best make, new, a bargain.
One No. 6 Dustless Separator; new, a bargain.
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.
Three No. 1 Corn Shellers, capacity 200 to 300 bushels per hour; new.
One No. 2 Purifier. New. Best make. A bargain.
For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5cf

M-I-L-L-E-R-S

Wanting Bolting Cloths should write for discounts on same before purchasing elsewhere to

SAMUEL CAREY,
71 Broadway, New York.

PROGNOSTICATOR Prime's private prognostications appear to have passed unnoticed this season. Wonder if he came within 200,000,000 bushels of the wheat crop of 1889 in his "expert" guesses? If he did, that was a close shave for Prime and a close call for the wheat crop.

MINNEAPOLIS flouring-mills are increasing their output. They have recently turned out about 142,000 barrels a week, against about 169,000 barrels in corresponding weeks last year. Shortage in water-power alone has prevented the Minneapolis output this month from equaling or exceeding that of September, 1888.

CORRESPONDENTS, who have been asking us for information concerning the roller-mill patent litigation, will find something to interest them and to answer their questions in the two communications printed in this number. They are statements from representatives of the two sides of the question, and millers who are about to purchase roller-mills can read what the intentions of both sides are, so far as prosecution and protection are concerned. Evidently the end is not yet. The Consolidated Roller Mill Company men appear to be confident that they will win, and their opponents appear to be quite as confident that they will win. Time will tell.

SEVERAL very venturesome highwaymen one night recently "held up Old Hutch," the Chicago speculator and cornerer. They "went through" his pockets, but, according to Mr. Hutchinson's own statement, "they got nothing." Any intelligent highwayman, who reads the fake dailies of Chicago, ought to know better than to tackle "Old Hutch." That old man has more than once been "held up" by the entire Chicago grain-pit menagerie, right in broad daylight, and in every case he has walked away with all their scalps dangling at his belt and all their ducats jingling in his pocket. The venturesome highwaymen who tackled him should be thankful that they got off as well as they did, in other words, that they got off at all.

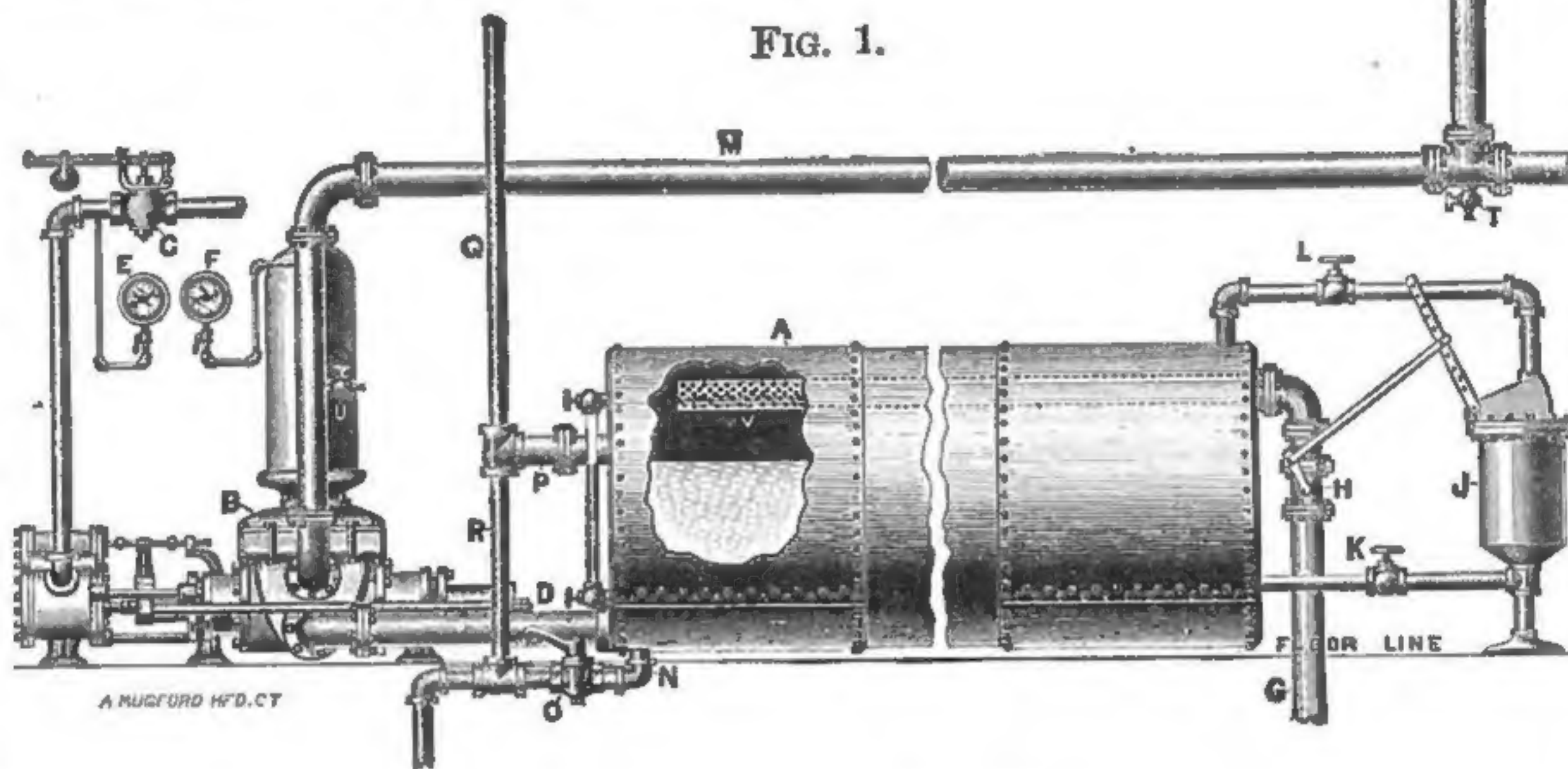
THE recently annexed parts of Chicago are bearing fine crops of corn and wheat. Some of the principal "boulevards" are yielding 35 to 40 bushels of wheat and 60 to 100 bushels of corn to the acre. St. Louis city wheat lands are yielding 40 bushels to the acre. Both of those great western towns could doubtless grow enough wheat on their principal streets to supply their citizens with all they need of that cereal for food. The beverage question is not included in this calculation, for obvious reasons. The Chicagoans and the St. Louisians are lulled to sleep nightly by the clatter of the reapers and threshers and the merry songs of the harvesters, who gather the golden grain on the fertile streets, avenues, ways, roads, paths, pastures and boulevards of those two blooming towns. What other country could show such a combination of the urban and the rural, the æsthetic and the pastoral? Not one!

ACCORDING to late reports from Buenos Ayres the booming, growing, thriving Argentine Republic, which this year is spending \$6,000,000 to attract, transport and locate immigrants, is preparing for a grand financial crash. The public debt has been piled up recklessly, borrowing on a magnificent scale has been practiced, and all sorts of enterprises have been aided by the government. The end seems to be near. The boom fever is virulent. Gold is quoted at 210, showing that the paper promises of the government to pay are not regarded as good. The Argentine Republic is one of the countries that were or are to develop wheat culture in destructive competition with the United States, and the great activity of the government in assisting immigration, in giving the incomers land and starting them in agricultural life has been a matter directly interesting to the farmers and the millers of the United States. A great financial crash, a collapse of the boom, will be a grievous injury to the Argentine Republic, and it seems now to be inevitable.

PUMPS FOR BOILER FEEDING.

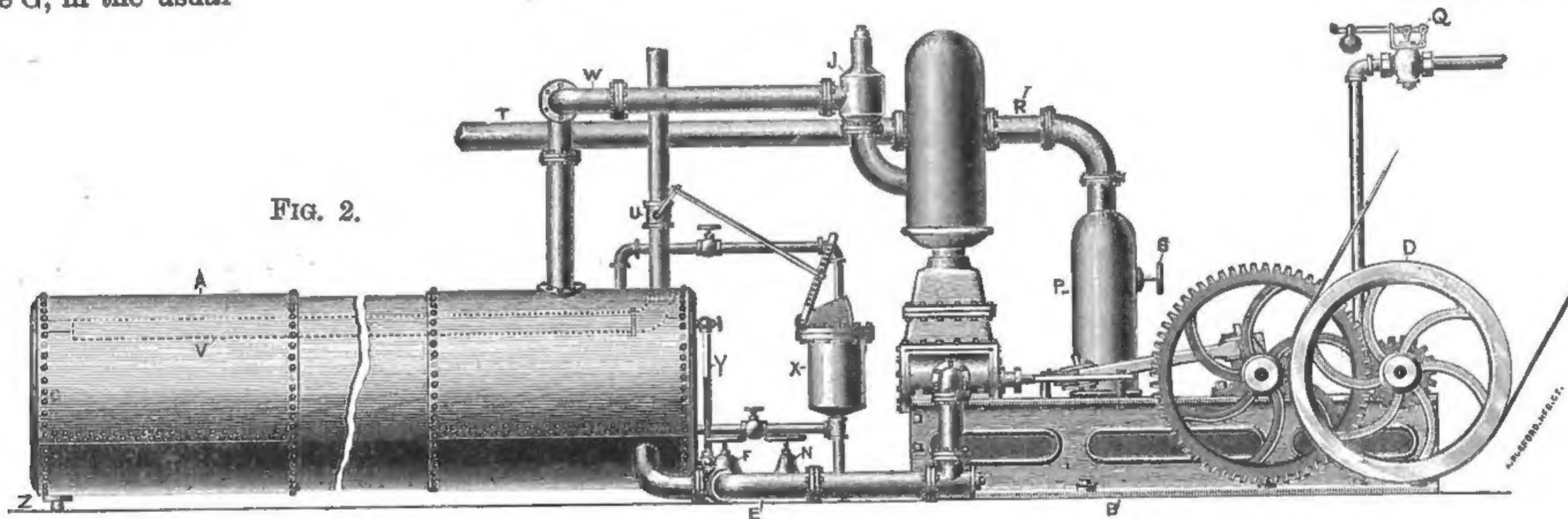
"The Locomotive."

Our illustrations show two arrangements of pumps that were designed for boiler feeding by this company and have now been in successful operation for a considerable time by the Boston Duck Company, Bondsville, Mass., and the Otis Company, Ware, Mass. The particular difficulties that these systems were designed to overcome were as follows: In each case a large amount of water is used, and in order to run economically it was desired to return the drip from the various mills to the boiler-room. This was attended with considerable difficulty, as the boilers are higher than the points where the traps must be placed. A survey of the yards showed that certain points could be selected, though at considerable distances from the boiler-houses, to which the drips could easily be returned, and it was resolved to place the receiving tanks at these points. In order that the pumps might be flooded, it was necessary to place them in the same pits with the tank, several hundred feet from the boilers; and after some consideration it was decided to do this and to arrange the pumps so that they might govern themselves automatically and not need the personal supervision of the firemen. Fig. 1 shows how this was accomplished at Bondsville. Into the tank, A, all the drips from the mills are discharged by means of traps of our own design. The exhaust from the pump also discharges into the same tank. The water in tank A is maintained at a constant level by means of a governor, J, which controls a valve, H, in the feed-pipe G, in the usual



tained the water in M just balances the reduced steam-pressure in C, and the pump can no longer run. It therefore remains motionless until a valve is opened somewhere on the pipe M. Then, the pressure in M being relieved, the pump is no longer balanced, the steam-pressure preponderates and the pump starts. This adjustment is so fine that if the attendant opens his valve a single spoke the pump responds immediately and moves so slowly that its motion can hardly be seen; while if he opens all his valves wide the pump instantly starts at full speed. To prevent unpleasant rattling and pounding in the boiler-room a stand-pipe, S, is provided near the boilers, which acts as an air-chamber and causes the whole to work smoothly and noiselessly. It happens occasionally, as for instance when the temperature of the boiler-feed is changed, that some of the air in S is absorbed or dissolved by the water, so that in time (once in two or three months) pipe S becomes filled with water and ceases

to act as an air-chamber. In this case it is only necessary to stop the pump for a few moments and open the small cocks T and U. Water then runs out at U and air bubbles up through T into the chamber overhead. When sufficient air has entered the small cocks are closed and the system is ready for operation once more. The plant at the Otis Company's mills is similar in principle, but somewhat more complicated in its details,



way. This governor communicates with the tank by means of the pipes shown, which are provided with cocks, L and K, so that the governor may be shut off from the tank when desired. Within the tank the feed-pipe is perforated as shown at V, so that the incoming water may condense any steam it may come in contact with and be itself heated thereby. A blow-off is provided at N, and a three-inch overflow pipe at P, which discharges surplus water into the blow-off through R and allows any uncondensed steam to escape through Q. The pump, B, draws its supply from the tank through pipe D and discharges through M, which passes to the boiler-room. Steam to operate the pump enters through the pipe C, which is provided with a reducing-valve, as shown, which serves to maintain the pressure on the steam-end of the pump constantly at 35 pounds, which is indicated by the gauge E. The water-pressure in pipe M is indicated at F. The operation of this system is very simple. If the attendant in the boiler-room shuts off all his valves, the pressure in the water-pipe M immediately runs up to from 100 to 105 pounds, the steam and water cylinders of the pump being so proportioned that when this pressure is at-

taining the water in M just balances the reduced steam-pressure in C, and the pump can no longer run. It therefore remains motionless until a valve is opened somewhere on the pipe M. Then, the pressure in M being relieved, the pump is no longer balanced, the steam-pressure preponderates and the pump starts. This adjustment is so fine that if the attendant opens his valve a single spoke the pump responds immediately and moves so slowly that its motion can hardly be seen; while if he opens all his valves wide the pump instantly starts at full speed. To prevent unpleasant rattling and pounding in the boiler-room a stand-pipe, S, is provided near the boilers, which acts as an air-chamber and causes the whole to work smoothly and noiselessly. It happens occasionally, as for instance when the temperature of the boiler-feed is changed, that some of the air in S is absorbed or dissolved by the water, so that in time (once in two or three months) pipe S becomes filled with water and ceases to act as an air-chamber. In this case it is only necessary to stop the pump for a few moments and open the small cocks T and U. Water then runs out at U and air bubbles up through T into the chamber overhead. When sufficient air has entered the small cocks are closed and the system is ready for operation once more. The plant at the Otis Company's mills is similar in principle, but somewhat more complicated in its details,

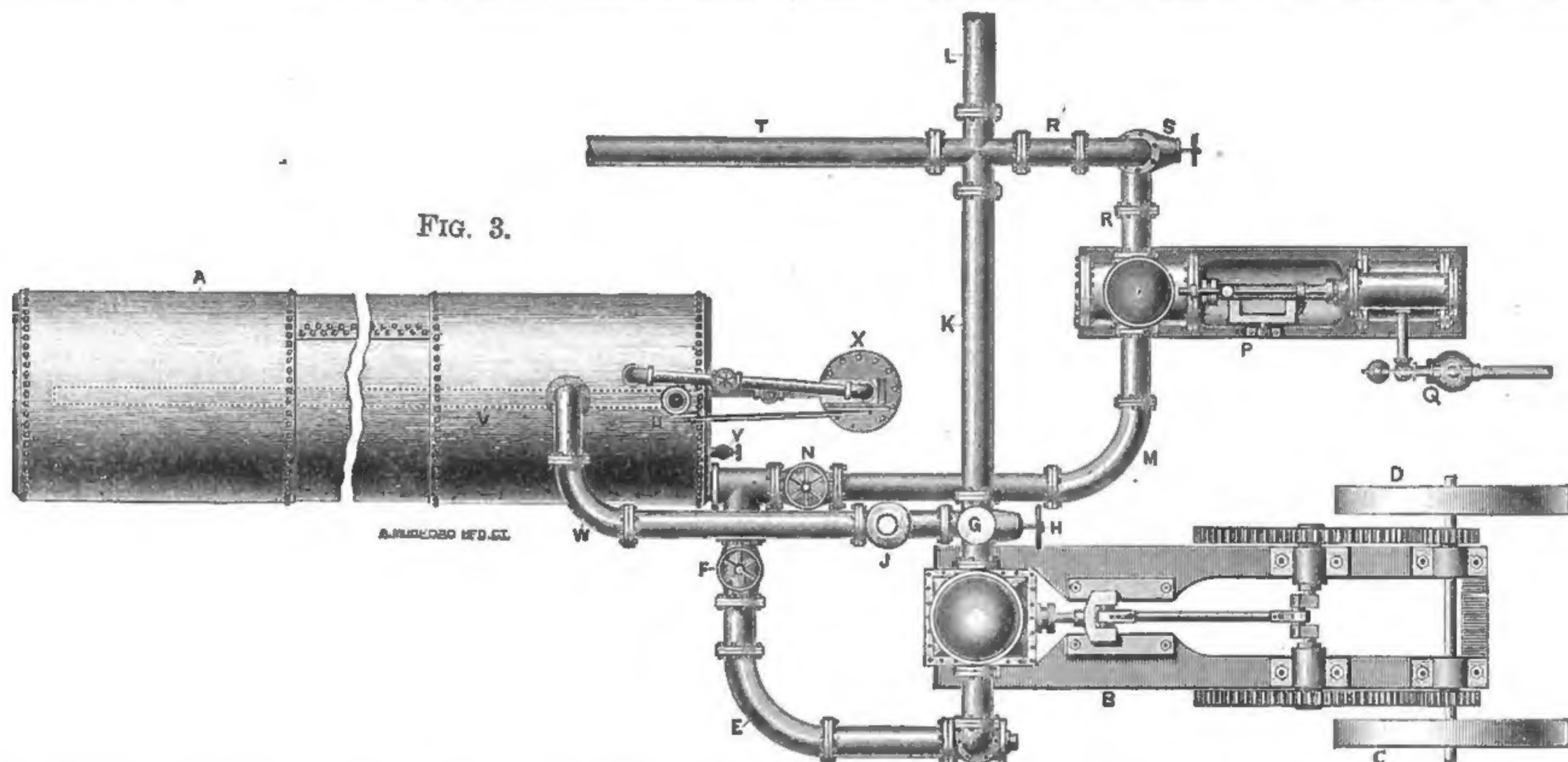
the demand for water is less than the supply that this pump affords, which is frequently the case, the surplus passes back to the tank A through a relief-valve, J, which is set to open at 115 pounds water-pressure. Under these circumstances the steam-pump, P, remains motionless, for the steam-pressure in it is kept constantly at from 24 to 25 pounds by means of Q, which corresponds to a pressure in the water-end of 105 pounds, so that it is impossible for this pump to start unless the pressure in KL falls to 105 pounds or less, that is, it is impossible for it to start while the demand for water does not exceed the capacity of the power-pump. To follow the action of the pumps, let us first suppose that all the valves in the boiler-room are closed. Then the pressure in the main, KL, rises at once. As soon as it reaches 115 pounds the relief-valve, J, opens, and after that the entire delivery of the power-pump passes through J and W and back into the tank A. Now let us suppose that the belt on the power-pump breaks. Immediately the delivery of this pump ceases, and the valve J closes. The pressure in the main, KL, is now 114 pounds, and both pumps are motionless. Now suppose an attendant in the boiler-room opens a feed-valve there, the pressure in the boiler being only 80 pounds, water begins to flow from the main into the boiler; but this reduces the pressure in the main, KL, which pressure, at the time of opening the valve in the boiler-room, was 115 pounds. The moment that this pressure falls below 105

would call attention to the following figures: The water in the tanks of these systems has a temperature of between 160° and 190° Fah. Now, one of the companies referred to uses five boilers constantly, and for these boilers and the dye-houses between 15,080 and 20,000 pounds of water are required per hour. To raise this amount of water from 70° to 170°, as many heat-units must be expended as would evaporate 2,000 pounds of water per hour; that is to say, it would be necessary for this company to run six boilers instead of five, if the drips were thrown away.

ROLLER MILL PATENT LITIGATION.

Following is a communication from the Consolidated Roller Mill Company, concerning the present status of the roller-mill patent litigation, to a northwestern grain and flour trade paper, which will interest thousands of our readers. The communication is dated August 23 and reads substantially as follows:

"Up to date there are three roller-mills, viz, the 'Livingston,' 'Miller,' 'Mawhood,' which have been judicially declared by the United States courts infringements of our patents. The three principal patents involved in these cases, all of which were sustained, were the Odell No. 10,139 in the 'Livingston' case, the Gray Nos. 222,895 and 238,677 in the 'Miller' case, and the Gray No. 222,895 in the 'Mawhood' case. In the 'Miller' case, after the fight was on, the defense weakened and consented to a decree, and while that



pounds, however, the steam-pump, P, ceases to be balanced; the steam-pressure preponderates over the water-pressure, and the pump starts with a velocity proportional to the demand for water, the working of this pump, from this moment on, being exactly the same as the working of the pump shown in Fig. 1. Now let us go back to the beginning once more and suppose that the belt on the power-pump does not break, but that the demand for water, owing to a fire breaking out or to any other cause, suddenly increases, so that pump B can no longer supply it. The pressure in KL then decreases as before, the relief-valve, J, closes, the steam-pump, P, starts up the moment the pressure in KL falls to 105 pounds, and both pumps run together, the power-pump at a uniform speed and the steam-pump at a variable speed, depending on the amount of water that is wanted. When night comes on the power-pump of course stops at 6 o'clock, and the steam-pump at once starts automatically and takes its place; and at 7 o'clock in the morning the power-pump starts once more and the steam-pump stops. In both of these plants pressure-gauges are attached to the steam and water pipes, so that an occasional visit to the pump-room shows at once whether every thing is working properly or not. Both systems also have an air-chamber in the boiler-room, as shown at S in Fig. 1; and it seems proper to say that in each case the pumps have worked smoothly from the outset and to the entire satisfaction of every one. In order that the advantage in economy that comes from returning the drips from the various pipes may be appreciated, we

fact in no way weakened the force of the decree, yet for present purposes we will leave it out of account. The two other cases were most ably and stubbornly contested, and the decision of Justice Matthews (now deceased) and Judge Sage, sustaining the Odell patent, and the later decision of Judge Brown broadly and fully sustaining the Gray patent, must be regarded and accepted as the law of the land concerning the validity of those two patents and their infringement by the 'Livingston' and 'Mawhood' rolls. We have confidently expected decisions in two cases covering two other machines before this, but owing to the crowded condition of the courts they could not be reached previous to the summer adjournment. We have brought suit against five more machines, all of which will be pushed to a hearing as rapidly as possible. By common consent the Coombs case, involving the 'Mawhood' machine, was regarded as a test case. The defense was conducted by the 'Big Five,' viz, the Richmond City Mill Works, Todds & Stanley Mill Furnishing Co., Great Western Mfg. Co., Barnard & Leas Mfg. Co., and Willford & Northway Mfg. Co. The decision of Judge Brown is therefore conclusive as against each of the above-named firms so far as the validity of the Gray patent, No. 222,895, is concerned. They have each had their day in court and are thereby estopped from any further defense against the validity of that patent. True, the question of infringements has not been judicially disposed of except in two machines, 'Livingston' and 'Mawhood'; but the fact that the roller-mills manufactured by each of the above-named firms do very clearly infringe either one or both of the two patents judicially sustained is apparent to the merest novice in such matters. In an interview between Mr. Northway and one of our officers he frankly acknowledged that if Judge Brown's decision was law he was an infringer. We also believe it to be true that every roller-

mill of any note or importance now manufactured in this country infringes our patents, and our agents inform us that the millers without exception thus far, no matter which unlicensed machine they are using, when they come to look them over in the light of our claims, and claims which have been judicially sustained, do not attempt to dispute the infringement. The officers of the National Millers' Association saw that our patents were being widely and clearly infringed, and that if the validity of our patents, particularly the Gray and Odell, were sustained, there was lots of trouble ahead for their members, hence they very wisely got under cover by settling with us so long ago as March, 1887, for all who were then members in good standing. In view of all these facts we have deemed it proper to go to the millers who are using unlicensed rolls, state our case and offer to compromise our claims against them on a fair and liberal basis, which business we are now engaged in. We have not taken the millers by surprise in the matter. All of them who read the milling journals were advised from time to time of the pending litigation, and very many of them were personally informed that we claimed the rolls they were proposing to purchase infringed our patents, and that if our patents were sustained would be likely to involve them in trouble; but their anxiety to save a dollar in first cost was so great they were willing to take the chances of being called upon at some future time for royalty and damages, and so put in the unlicensed rolls. Their action in this respect was rendered all the more indefensible by the fact that the four leading mill-builders of this country, among whom there never was any combination as to prices, and who make a sufficient variety of styles and sizes of rolls to gratify any miller's fancy, and who were abundantly able to promptly supply the entire demand for rolls, offered them licensed rolls at prices as low and even lower than was consistent with a fair profit. The fact is that in the mad chase after cheap rolls the millers have encouraged infringement of our patents, and they, in common with many mill-furnishers, have proceeded in the matter with an utter disregard of our patented rights, and now, in reminding them that a patent deed for an invention is to be respected as much as a patent deed from the same government for land, we are not only doing them no wrong, but are rendering the whole country a service in the interest of protection to property. It goes without saying that millers are at liberty to reject our proffered compromise if they choose; but they may rest assured that we are disposed to protect and enforce our rights. The exclusive right to use, as well as manufacture and sell under our patents, is vested by law in us and can be conveyed to the miller only by us. In conclusion, we will simply say that we demand a fair recognition of our legal rights. We are calling upon the millers in a friendly spirit, desiring an amicable settlement with them if possible, and if they will meet us in a similar spirit there will be no trouble, we think, in effecting a compromise; but if they prefer to fight, we are prepared to accommodate them."

The other side of the question is presented by a representative of the "Big Five" as follows:

"Our house has acted upon the assumption that the manufacturer of machines should assume the responsibility of protecting his machinery in the hands of the user. No manufacturer could afford to re-imburse users for money paid in settlement of fictitious claims based upon invalid or worthless patents, and the only safe course for the user, when the manufacturer is willing and able to assume the responsibility, is to wait until the legality of the claim has been finally determined. The Consolidated Roller Mill Co. has brought suit upon several of its patents. Of the patents sued upon, two have been held invalid by the courts (No. 289,518 granted Daniel E. Dowling, Dec. 4, 1883, for feed mechanism for roller mills, and No. 274,508, granted to D. W. Marmon, March 27, 1883, for roller mill), and two (No. 258,832, granted Wescott & Karns, May 30, 1882, for improvement in roller mill, and No. 339,927, granted Udolpho H. Odell, April 13, 1883, for improvements in roller grinding mills) have been withdrawn before the hearing, to avoid defeat. The only suit on patents owned by the Consolidated Roller Mill Co. which has ever been before the supreme court was *Allis vs. Freeman*, in which the circuit court held that the three Gray patents, 222,895, 228,525 and 238,761, were invalid. *Allis* appealed to the supreme court, but before the case was reached for hearing, Mr. Mason, attorney for the Consolidated Roller Mill Co., which had succeeded *Allis* in the ownership of the Gray patents, dismissed the appeal, and the decree against the patents in that case was thereby made final. The action of the Consolidated in dismissing this appeal indicates, to our minds at least, that it knows that the Gray patents can not be sustained in the supreme court. One of the patents held invalid by Judge Bunn in the case above referred to has been held valid in another case by Judge Brown of Michigan, but no damages have been awarded, although several months have elapsed since the decree was entered, and the complainant has taken no steps to push the accounting, evidently preferring

to prevent, as long as possible, an adjudication upon the patent by the supreme court, and meanwhile using its patents to annoy those who refuse to enter their combination. The last mentioned case will be appealed to the supreme court by the defendants, as soon as final decree is entered, if the final decree should be in favor of the patent. The situation as to that patent is briefly this: Two courts of co-ordinate jurisdiction have passed upon the patent, one holding it invalid and the other holding it valid. The appeal from the decision holding it invalid was dismissed by the Consolidated, thus preventing an adjudication by the court of last resort. Under these circumstances it is not strange that the Consolidated should use its utmost endeavors to levy tribute under this patent before it is passed upon by the supreme court. The only other patent owned by the Consolidated, which, so far as we are advised, has ever been sustained by any court, is the Odell re-issued patent No. 10,139 which was involved in the case of *Odell vs. Stout, Mills & Temple*. The court sustained that patent as covering the specific construction, but the defendant at once changed the mechanism so that it would accomplish the same result, but in a different manner. The complainant tried to have the manufacture and sale of the modified machine enjoined by the same court, but the court refused the injunction on the ground of non-infringement. The interlocutory decree in this case, finding in favor of the patent, was made in 1884, and the complainant has never pushed the accounting before the master, or taken any steps toward pushing the case to a final decree. No damages have ever been awarded under that patent, and the complainant was compelled to disclaim the broad claim before the court would enter a decree upon the more specific claim. So far as we know these are the only cases in which any of the patents owned by the Consolidated have been passed upon by the courts. It should be remembered that the only case in which a final decree has been entered is the case in which the Gray patents were held invalid. The Consolidated has not yet obtained a judgment in any court for any damages by reason of the infringement of any of its patents. So long as the manufacturer is ready and able to protect his machine, we certainly should not think it wisdom or policy for the user to pay tribute under circumstances like these. We have the utmost confidence that the decision sustaining the Gray patent will be reversed when the case reaches the supreme court, and until the supreme court has passed upon the claims of the Consolidated we think there is no occasion for the users of our machine to worry. We have endeavored to give as briefly as possible the material facts of the matter, omitting any discussion of the merits of the patents, or suits upon the patents.

POINTS IN MILLING.

THE longer and more closely one studies mills, millers and milling, the more one is impressed with the value of "small things." In one mill he will find industry, watchfulness and close attention to every minute point, not only in buying grain, but also in each step in the making of flour, and there he will find prosperity. In the next mill, using the same sort of grain, supplying the same market, with all the conditions the same, he will find indolence, carelessness and disregard of the minute points, and there he will find discontent and bankruptcy. In the second mill he will find branderers working badly, bolting-cloths clogged, belts too loose or too tight, elevator-buckets missing, oil-holes stopped up, frictional parts heating because of insufficient lubrication, spout-holes leaking grain, flour-spouts leaking flour, purifier cloths too loose on machines, shafts wobbling, belts flapping, windows opaque with dirt, oil-cans leaking, oil-pans overflowing, a waste-room inviting combustion, dark corners foul and fetid and alive with vermin, roofs leaking, steps broken, rolls improperly adjusted, steam-power wasted, men working in a slovenly way in every department, and over all an air of slouchiness and don't-care-a-damateness that means waste and loss all the time.

It is wonderful that any man, who knows enough to go in when it rains, should expect to ignore all these "small things" in and about a mill and yet come out all right. Such millers there are, as every man knows, whose business brings him into contact with the owners, lessees, managers and operatives of many different mills.

THESE carelessly and wastefully conducted mills may often be made paying concerns under new men. When a mill begins to run behind, the cause generally lies in the mill itself, under ordinary circumstances, and the owner, before

he "jumps onto" the crop, or the hard times, or any other pet bugaboo, should look closely to the condition of affairs right in the mill itself. Often he will find all the trouble right at home, and he can remove it when it is found right under his nose. That is the easiest way. Let investigation, like charity, begin at home.

IN case the Minneapolis flouring-mills pass into the hands of British millers, it is fair to assume that British millers will be imported to operate them. It will be interesting to note what European millers will do with fine American wheat, in first-class American mills equipped with high-grade American machinery. They will doubtless miss their steamers, whizzers, dryers, roasters, moisteners, and other machines generally unknown here, and they will also miss their fearfully and wonderfully made mixtures of wheats, dirt, wool, gravel and diamond rings from Asia and elsewhere. For a time they will feel like cats in a strange garret. It will be hard for them to resist the temptation to "blend" various wheats before grinding. If they come, and if they bring with them their British methods of grinding, the flour they put upon the markets will at once and forever settle the question whether or not they are, as they claim to be, better millers than the Americans.

ONCE more the American wheat is what it always has been, the best wheat grown. The new wheat already on the market, whether from Kansas or California, is as fine as ever was grown. The spring wheat is promising to retrieve the defects of last year's abnormally bad season, and should it size up with the winter wheat already harvested, American flour-makers will have no cause of complaint during the opening campaign.

AN out-and-out opponent of the short system is a rarity in these days. The few "kickers" against that system are principally men who have not tried it, or who refuse to believe the testimony of others who have tried it. Even the one private organ that pretends to oppose the short system takes good care to say nothing against it. There seems to have been a really important change in this direction in the mills of the United States.

THE German millers stand sturdily by the buhr. The only yielding shown by them is in permitting the rolls to be used in the mill in conjunction with buhrs. They are good millers, but they are not the best millers in the world, and it is possible that they are sacrificing more than they are aware of in refusing to give the rolls the chief place. That is their own funeral.

ANOTHER MILLING REVOLUTION ARRIVES.

Recently our esteemed transatlantic cotemporary, the London, England, "Millers' Gazette," referred to a new machine working in a Brussels, Belgium, flouring-mill. This machine is named "The Universal Decorticator," and our cotemporary says of it: This is the title of the new machine which has for some time been at work in a Brussels mill, with, as has been reported, such extraordinary results, and to which we referred last week. It is the joint invention of Mr. Quenehen and Mr. Vansteenkiste and is now working in the Allee-Verte mill at Laeken, Brussels, of which Mr. Quenehen is manager. A correspondent of a French cotemporary has examined the machine and its results and appears to be overcome with astonishment at its marvelous work. This correspondent says that his astonishment was great when he saw the results of this machine, produced in such a simple manner, and with such a small expenditure of power. "If," he exclaims, "I had not handled the products and seen the work done, I could not have credited it." The apparatus, it appears, occupies a space of less than 5 feet over all and runs at only 60 revolutions per minute, requiring hardly 2 horse-power, and breaking down, or rather decorticating, about 500 kilos or 1,100 pounds of wheat per hour, the resulting products being absolutely only two, bran and middlings—no break flour! The middlings are beautifully white and entirely clear of any particle of bran. The

bran itself is nearly clean, but is sent to three rolls, in one frame, especially fluted, the two first cleaning the bran, and the last finishing the separated product. This decorticator, or break-machine, offers 20 times more surface, continues the French correspondent, than ordinary rolls; it works without pressure and runs at a very slow speed, and the grinding surface has grooves five or six times larger than those in ordinary first break rolls. Finally, he adds, in an experiment with clean wheat, weighing 63 to 64 pounds per bushel, 75 per cent. of the flour made was equal to Paris "twelve marks" flour. On the other hand, the English millers who have visited Brussels lately and examined this machine are by no means so enthusiastic. They agree that the work done on damped or heated wheat is very good, indeed, but the smallness of the feed would not be suitable for an English mill. It is in fact a question whether ordinary break-rolls with equally small feed, and with suitable wheat, would not give equally good results. Be this as it may, this new decorticator has created a kind of sensation, and English millers will do well to inquire into its merits.

MILLING PATENTS.

Among the patents granted September 17, 1889, are the following:

- P. F. Dooley, Malone, N. Y., No. 411,095, a roll-grinder.
- Jac. Payer, St. Paul, Minn., No. 411,256, a grain-separator.
- Wilson Ager, Bloomsburg, Pa., No. 411,316, a process of scouring and decorticating grain.
- Louis Wagner, Baltimore, Md., No. 411,404, a safety device for grain-mills.

Among the patents granted Sept. 24, 1889, are the following:

- Levi A. Haight, Tyndall, Dak., No. 411,435, a flour or meal safe.
- Stacy B. Hart, Peoria, Ill., No. 411,438, an elevator attachment for grain-separators, and No. 411,439, a grain-conveyor.
- Daniel Wilde, Washington, Ia., No. 411,514, a grain-weighing machine.
- Chas. A. Bergtold, New York, N. Y., No. 411,571, a grinding-mill.
- Benj. F. Miesenhelder and Chas. S. McCoy, Cincinnati, O., No. 411,602, a dust-collector.
- John A. McClellan, Hico, Tex., No. 411,671, a flour bin and sifter.
- E. K. Wilson, Cherryfield, Me., No. 411,701, a bag-holder.
- John B. Cornwall, Moline, Ill., No. 411,759, a corn-cleaner.
- Thos. J. Underwood, Decatur, Ill., No. 411,763, an automatic grain-weigher.

Atlanta kicked a good many hundreds of thousands of dollars out of the city when she permitted the effigy-burning recently. She also gave herself "a black eye" with sensible, thoughtful, conservative people everywhere. There was no reason for such an exhibition and no justification for it.—*Atlanta, Ga., "Dixie."*

SPECIAL NOTICES.

BOLTING CLOTH.

Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

CASE MANUFACTURING CO.,
Columbus, Ohio.

Office and Factory, 5th Street, north of Naughten.

TOLEDO MILL PICKS AND STONE TOOL MFG. CO

Manufacturer  and Dresser of

MILL PICKS.

Made of the best double-refined English cast steel. All work guaranteed. For terms and warranty, address, GEO. W. HEARTLEY, No. 297 St. Clair Street, Toledo, Ohio. Send for Circular.
N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

ALSO MANUFACTURERS OF

Shafting, Pulleys, Hangers, Coupling, Machine and Jobbing, Etc., Etc.



ANOTHER NON-MAGNETIC ALLOY.—Among recently announced inventions mention is made of a new non-magnetic alloy manufactured by the Steel Company of Scotland, which contains 20 per cent. of nickel and .085 per cent. of manganese. It is found that it is almost non-magnetic, its permeability being only 1.4, or sensibly the same as that of manganese steel.

GENERAL NOTES.

ELECTRICITY is largely employed in the United States. The capital invested in electrical industries is \$600,000,000, of which \$100,000,000 are invested in establishments supplying wires, carbon and other supplies, \$200,000,000 in telegraph and telephone companies, and \$300,000,000 in electric light and power plants.

SOMETHING ABOUT SMUTS ON GRAIN.

Of these none are more common or better known than corn smut. Like those of other smuts, its germinating spores attack young plants, its mycelium or spawn making its way upward through their growing tissues without producing any evident effect until it prepares to fruit, when it increases and leads to the formation of the smut-galls, that are ultimately filled with myriads of round brown spores, each densely covered by short, sharp spines. These spores, which measure 9-13 micro-millimeters, preserve their power of germination for many years, or in fresh barn-yard manure they develop at once, multiplying indefinitely by the production of yeast-like secondary spores, each of which has the power of infecting a seedling corn-plant. Gathering and burning the smut-galls and smutty ears while they are still green, to prevent accumulation of spores in the soil; rotating the crop when smut has become firmly established in a field; treating seed corn with copperas water and lime before planting; and using only old, well-rotted manure or artificial fertilizers, have all been proposed as preventives of smut.

The leaf-smut of timothy forms black, smutty lines in the leaves of timothy and other grasses, which are finally reduced to brown shreds covered with dusty spores. The first appearance of this disease is in the formation of lead-colored, thickened lines, about $\frac{1}{4}$ inch wide and $\frac{1}{8}$ to $\frac{1}{2}$ inch long, between the nerves of the leaf. The epidermis, which at first covers them and gives them their gray color, soon breaks away, revealing a powdery mass of black brown spores, which are irregularly rounded or egg-shaped and closely studded with short spines. They measure $\frac{1}{2}$ micro-millimeters, and in their microscopical characters closely resemble the spores of the corn smut. Similar black lines are formed in the leaves of species of "Glyceria" by "Ustil-

ago longissima" which has smooth brown spores 3, 5 to 7 micro-millimeters in diameter, and in the leaves of the wild rye and other grasses by "Urocystis occulta" the dark brown opaque spores of which measure $\frac{1}{2}$ micro-millimeters, and usually occur in clusters of 2-4, closely surrounded by masses of half-round, colorless cells of slightly greater diameter. "Ustilago hypodytes" occurs on the stem of quack-grass and other species, usually forming black smut masses inside the leaf-sheath, and "U. grandis" causes cat-tail like swellings on the internodes of the reed. The fruit of many grasses is replaced by other smut fungi, the number of which is very considerable. The commonest are "Ustilago panici glauci," very abundant in autumn on pigeon-grass, "U. rabenhorstiana", on crab-grasses and sand-burrs, and "U. segetum", in oats, barley and wheat. Draining the soil well, transferring the crops to new land when they begin to smut badly, and exercising care with respect to manure are preventive measures.

The officinal ergot, to be found in most rye fields toward the end of summer, appears in the form of curved purple or black spurs, often an inch long and $\frac{1}{4}$ inch in diameter, which replace the grain in one or more flowers of a spike, thus giving rise to the popular name of spurred rye, often applied to it. Spurs of the same nature, but usually shorter and stouter, are also common in the heads of wheat. Similar bodies, varying much in size, shape and color, are found in the flowers of many grasses. On the rush salt grass they are very long and slender and rather pale. On wild rice they are short and even shorter than the spurs of wheat; while on smaller grasses, like red-top, timothy and blue-grass, they are much smaller and closely resemble the pellets of mice. These spurs are the resting form, or sclerotia, of a fungus which appears at the base of the young grain when the grasses are in bloom. As it grows it gradually takes the place of the grain, the remains of which are pushed up at its end. While young, the fungus gives off a sweetish, ill-smelling fluid, that contains myriads of microscopic spores which are carried from plant to plant by flies, beetles and other insects that feed on the fluid, and so play an important part in spreading the disease. When the spurs have reached their growth they harden and fall to the ground, where, as a general thing, they remain unchanged till the next spring, when each bears a number of small, stalked, pink fruit bodies, in which spores are produced at about the time when grasses are coming into bloom.

THE MILLING WORLD claims a shortage of 100 per cent. in the crop of mill-dam poetry—or dam mill poetry—we have forgotten which—and is offering sums amounting to \$000,000,000 in order to stimulate production. Meanwhile, "Bang," "Whang" and "Clang" have shut down to make repairs in the dictionary and in the interim are eating their tailings, buying up the paper mills and otherwise getting ready to grind out the next season's product. The WORLD takes too gloomy a view of the situation, for in these many years seed time and harvest have never failed.—*Indianapolis "Millstone."*

The Canton Cabinet Filing Case Company, Canton, Ohio.

MANUFACTURERS OF

The New Buckeye Document Case & Letter File; Also All Kinds Office Furniture



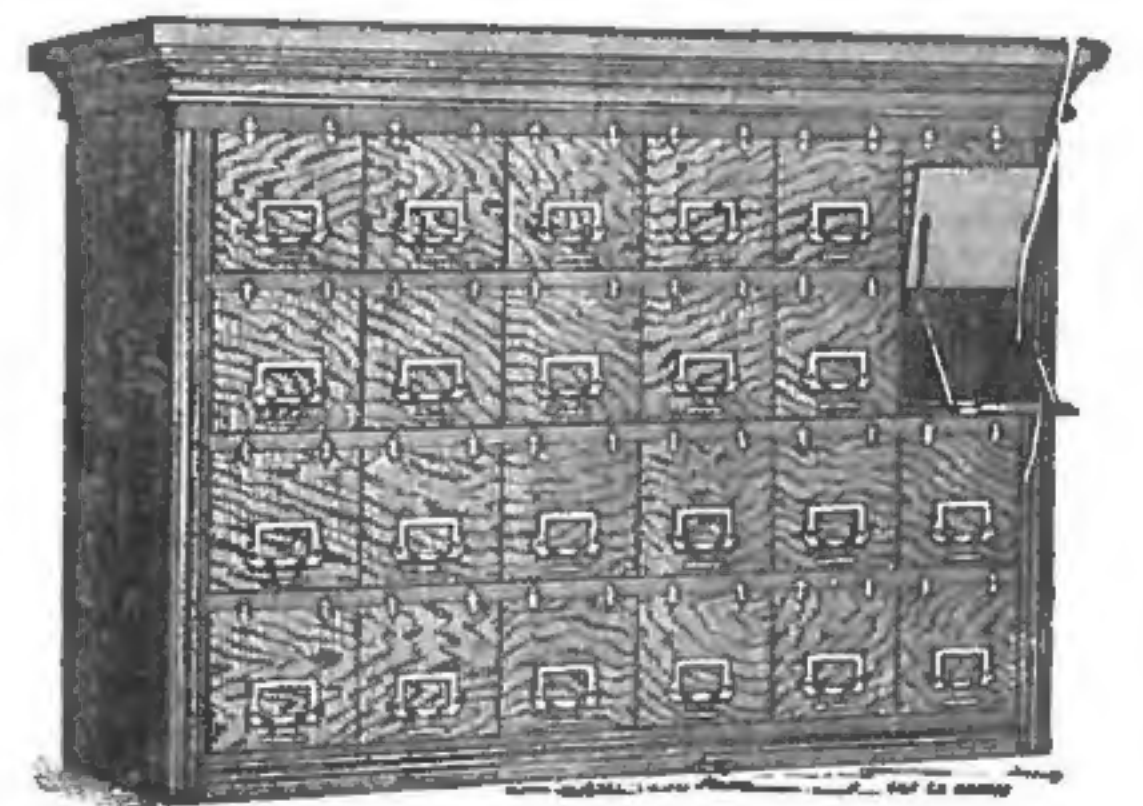
NO. 8.

NO. 8 Represents one side of one of our Revolving Cabinet Letter Files and Document Cases Combined. It contains 30 Document Drawers and 8 Letter File Drawers. In filing letters we use first VOWEL of name on front of drawer, and LETTER FOLLOWING first VOWEL on Index Sheet within drawer. We also make more exhaustive systems which contain from 6 to 100 or more Filing Drawers.

NO. 1 Represents one of our small Document Cabinets, for use on desks or brackets. Action of drawer can be seen in the cut. When front is raised inner drawer comes forward, exposing contents of drawer for inspection.

Our Cabinet Files are Conceded to be the Most Convenient of Any in the Market. They are Compact, Simple, Complete, Durable and Ornamental.

SEND FOR PRICE LIST AND CATALOGUE.



NO. 1.

COMPOUND Condensing or Non-Condensing.
16 SIZES, 5 to 500 H. P.
Not yet equaled by any form of Engine for
HIGH FUEL DUTY AND SIMPLICITY.

STANDARD 13 Sizes in Stock.
5 to 250 H. P.
3000 in use in all parts of the Civilized World.

JUNIOR 6 Sizes in Stock,
5 to 50 H. P.
An Automatic Engine cheaper than a Slide Valve.
WELL BUILT. ECONOMICAL. RELIABLE.
Over 300 Sold the First Year.

All the above built strictly to Gauge with
INTERCHANGEABLE PARTS.
REPAIRS CARRIED IN STOCK.
SEND FOR ILLUSTRATED CATALOGUES.

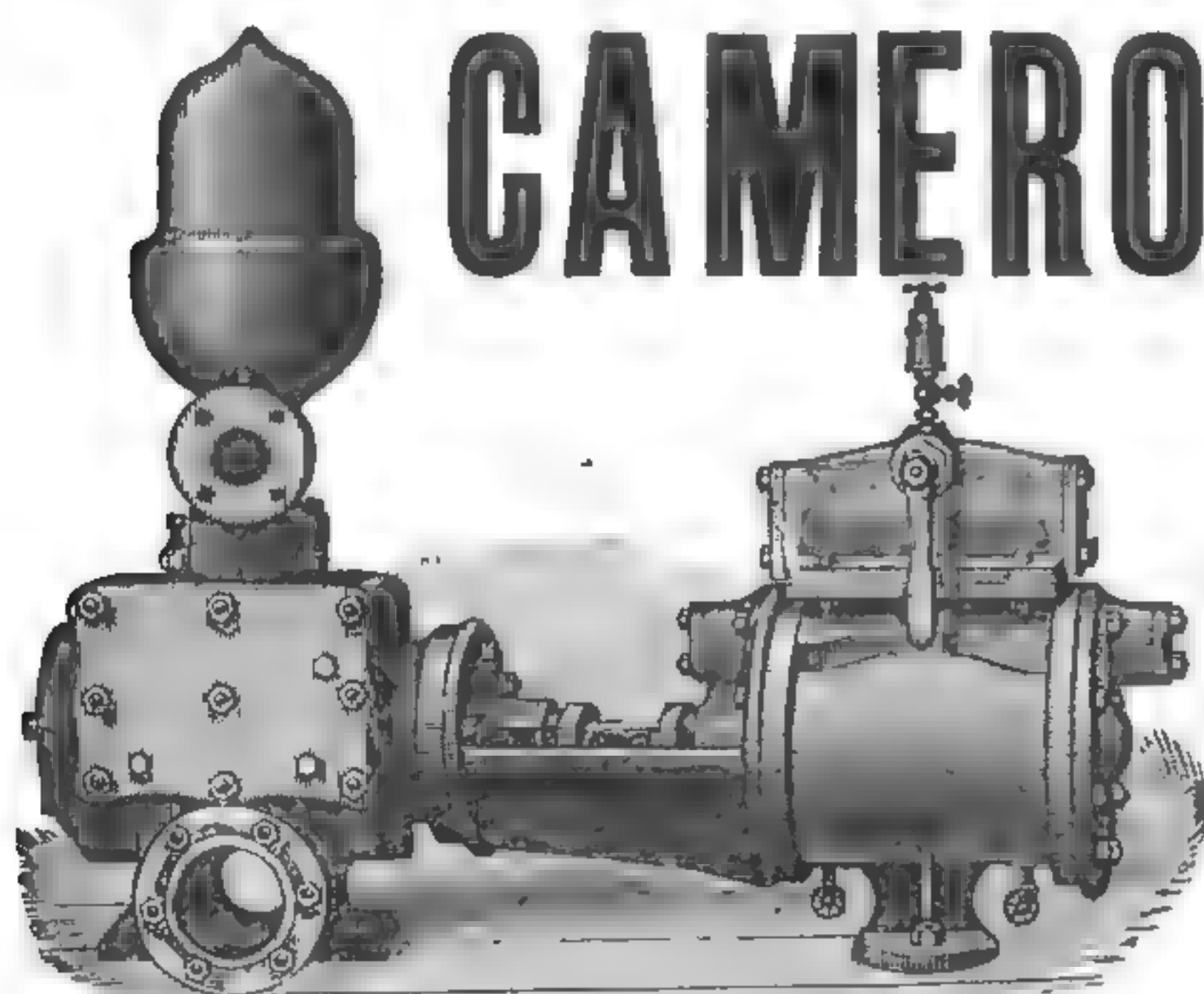
WESTINGHOUSE

ENGINES

The Westinghouse Machine Co.
PITTSBURGH, PA. U.S.A.

SELLING DEPARTMENT IN THE UNITED STATES.

New York,	17 Cortlandt St.	Westinghouse, Church, Kerr & Co.
Boston,	Hathaway Building,	
Pittsburgh,	Westinghouse Build'g,	
Chicago,	156, 158 Lake St.	
Philadelphia,	608 Chestnut St. M. R. Muckle, Jr. & Co.	
St. Louis,	302, 304 Washington Av.	Fairbanks & Co.
Kansas City,	312 Union Avenue,	
Denver,	1230 Seventeenth St.	
Omaha,	1619 Capitol Avenue, F. C. Ayer.	
Pine Bluffs, Ark.	Geo. M. Dilley & Sons.	
Salt Lake City,	259 S. Main St.	Utah & Montana Machinery Co.
Butte, Mont.	4 Granite St.	
San Francisco,	21, 23 Fremont Street, Parke & Lacy Co.	
Portland, Or.	33, 35 N. Front St. Parke & Lacy Mch. Co.	
Charlotte, N. C.	36 College St.	The D. A. Tompkins Co.
Atlanta, Ga.	45 S. Prior St.	
Dallas, Tex.	Keating Imp. & Machine Co.	
Chattanooga, Tenn.,	G. E. James & Co.	



CAMERON STEAM PUMP

THE STANDARD OF EXCELLENCE.

SIMPLE! COMPACT! DURABLE!

"NO OUTSIDE VALVE GEAR."

Steam, Air & Vacuum Pumps in Every Variety

FOR ILLUSTRATED CATALOGUE ADDRESS

THE A.S. CAMERON STEAM PUMP WORKS

Foot of East 23d Street. - New York.

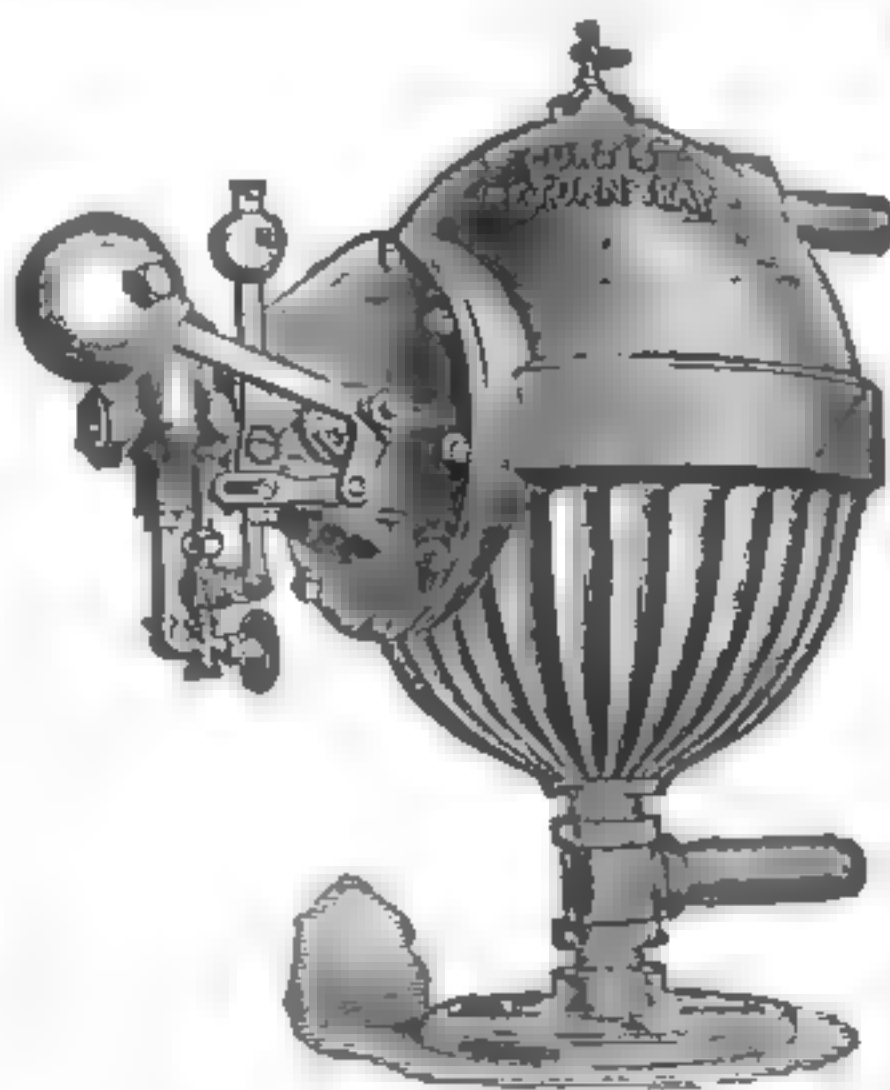
L. L. WHITLOCK,
Advertising Agent

FOR MANUFACTURERS.

TRADE JOURNALS A SPECIALTY.

P. O. DRAWER 5323. Boston, Mass.

As Agent for Advertisers instead of Papers, I obtain
the Best Rates Possible for my Customers.



THE CURTIS

PATENT RETURN STEAM TRAP.

It is noiseless, positive, rapid, will return all condensation back into the boiler, and works equally well in connection with reduced pressure or exhaust steam, also when the return is below the water line of the boiler.

THE CURTIS REGULATOR COMPANY,
No. 74 BEVERLY ST., BOSTON, MASS.

GENERAL AGENCIES.

NEW YORK, 109 Liberty st.

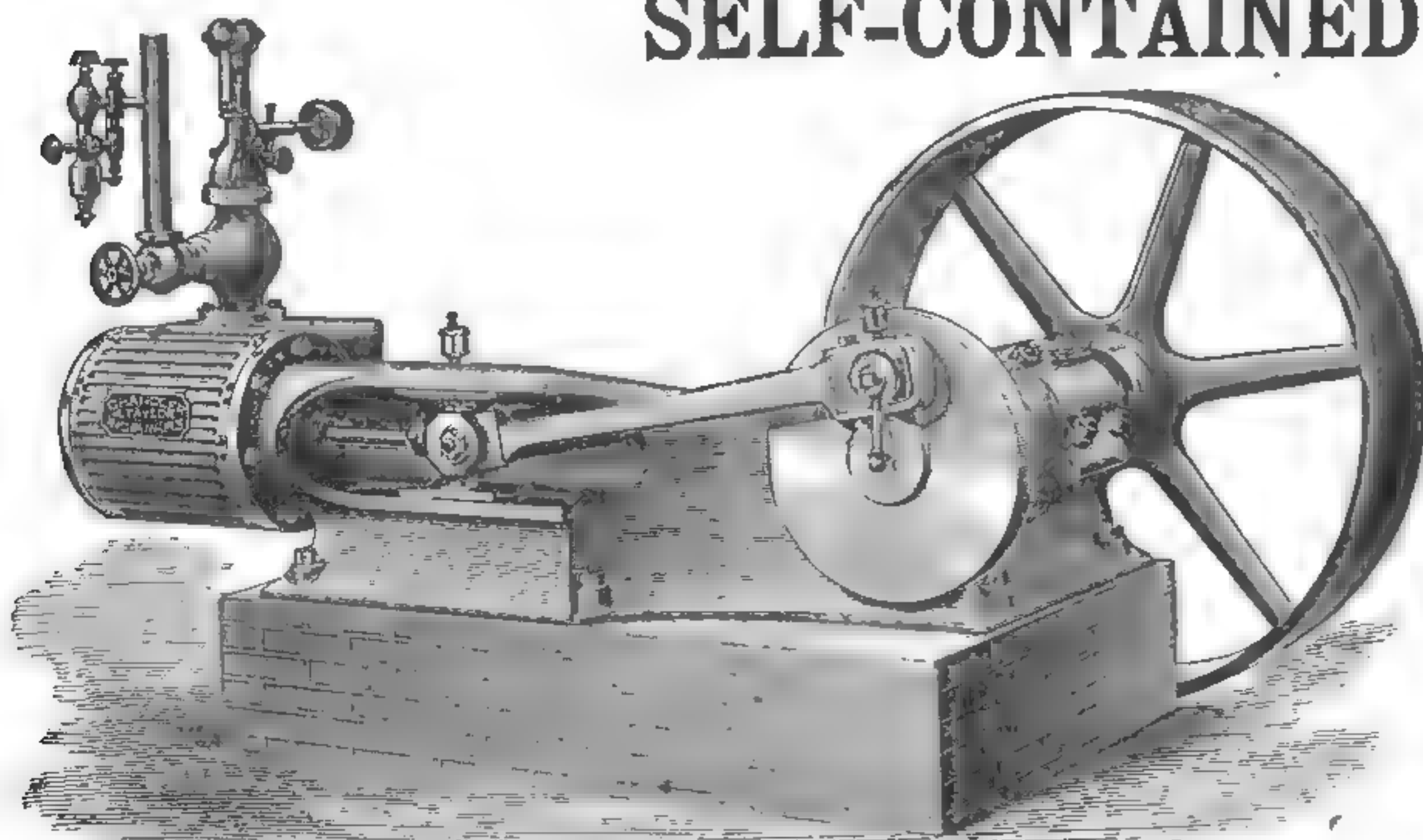
CHICAGO, 218 Lake st.

PHILADELPHIA, 2035 N. Front st.

ST. LOUIS, 511 WALNUT ST.

MINNEAPOLIS, 210 S. Third st.

NEW ORLEANS, 21 Union st.



SELF-CONTAINED STEAM ENGINES

Stationary or
Semi-Portable.

High Standard Maintained.
Prices Greatly Reduced.

WRITE FOR NEW ILLUSTRATED
CATALOGUE NO. 32.

Chandler & Taylor Co.

Indianapolis, Ind.

Engines, Saw-Mills and Drain Tile
Machinery a Specialty.

NOTES & NEWS

Laredo, Tex., men project a grist-mill.
 Hardy, Ark., men have built a grist-mill.
 Lewisburg, W. Va., men project a flour-mill.
 Benj. Cleaver, miller, Lebanon, Ore., sold out.
 Water Valley, Ark., men will build a grist-mill.
 Stamping Ground, Ky., men project a flour-mill.
 J. Schoonover, Pocahontas, Ark., builds a grist-mill.
 D. Gunning's flour-mill, Minnie Falls, Wash., burned.
 Wm. Tribble, Woodlawn, Ark., improves his grist-mill.
 Snyder & Hoffman's flour-mill, Vandalia, Mich., burned.
 Moore & Beard, millers, Sebree, Ky., improved their mill.
 W. L. Kelleam, miller, Charleston, Ark., improves his plant.
 The Union Milling & Mfg. Co.'s flour-mill, West Point Ga., burned.
 J. S. J. Watson's flour-mill, Kingston, Ont., Can., burned; loss \$10,000, insurance \$2,000.
 D. Rosenberg & Co.'s roller flour-mill, Decatur, Tex., burned; loss \$25,000; insurance \$8,800.
 Goliad, Tex., men are building a flouring-mill at Fannin Station, a new town 10 miles from Goliad.
 Blake & Hightowner, Cisco, Tex., are rebuilding their burned grist-mill; they want machinery.
 A. G. Wells' elevator, warehouse and feed-mill, Depere, Wis., damaged \$6,000 by fire; fully insured.
 W. W. Farmer, Hart's Road, Fla., will build a rice and corn-meal mill at once; he wants machinery.
 L. Meeker's flour-mill, Elk Lake, Minn., burned with its contents; loss \$24,000; insurance only \$8,000.
 Granbury, Tex., men are building a 150-barrel roller flouring-mill and a 250,000-bushel grain-elevator.
 R. P. Smith, Houston, Tex., has points on a new flouring-mill to be built in that town at an early date.
 Catlett, Cummins & Hall, Prairie Grove, Ark., have bought the Prairie Grove flour-mills and will remodel the plant to rolls.
 The Wheelers' Keeling, Gin & Grist Mill Co. is a new concern incorporated at Brownsville, Tenn.; they will build a grist-mill.
 J. H. McShay & Co., Rhea Mills, Ark., have bought and will operate the Rhea Mills Flour Mill; next spring they will remodel to rolls.
 Canadian Pacific Railway officials state that that company will not build elevators at Duluth, but will increase the elevator capacity at Fort William 1,500,000 bushels by building an annex to elevator A, which will bring the total storage capacity at the head of lake navigation to nearly 5,000,000 bushels, all owned by the Canadian Pacific Railway.
 It is reported on reliable authority that some of the best winter-wheat sections of Ontario will not yield above an average of 17 bushels per acre against the previous average of 28 bushels. Grain men claim a smaller crop of winter wheat than last year. The heads did not fill as well as was expected and threshing has resulted in disappointment, both as regards quantity and quality. In some sections a good average crop is confidently looked for. Recently about 20,000 bushels of red winter shipped to Montreal from Ontario was reshipped to that province at a cost of near \$1.02 at that point. Ontario millers apparently find it difficult to secure enough wheat for grinding.
 The Pennsylvania Mill rs' State Association held their regular annual meeting in Chambersburg, Pa., in the Rosedale Opera House, September 17. The session was opened at 3:30 p. m. by president B. F. Isenberg, who, in his opening address, discussed insurance, surplus, improvements, state brands, buying grain and other topics, and gave a review of the work of the Association. He spoke of the heavy losses sustained by the millers in the June floods and said that if it were feasible there should be a clause in their insurance policies to cover such losses. Secretary

Levan's report showed a prosperous year and a bright outlook. Reports were presented from the executive committee, and committees on patents, on bagging and sacks, on transportation, on machinery and processes, grain for milling, grading and inspection, and the committee on entertainment. The entertainment report included an invitation from Mr. Augustus Wolf to visit Gettysburg at his expense, which was accepted by the association. The committee on grain reported in favor of recommending the farmers of the state to grow longberry red wheat, as being the best in results both to the farmer and to the miller. In speaking upon this question Mr. W. Latimer Small, of York, said that that the farmers of York county are giving up longberry and sowing Fultz wheat. Election of officers resulted in the choice of the following: President, B. F. Isenberg, Huntingdon; first vice-president, Charles Hoffa, Lewisburg; second vice-president, Joseph Bosler, Ogontz; secretary and treasurer, Landis Levan, of Lancaster. At the evening session the business of the meeting was finished, and there was a general discussion of systems of milling. On the 18th the association went to Gettysburg on Mr. Wolf's excursion. The party filled 8 cars and numbered 400. On the way they stopped at Hagerstown to visit a new mill. On the 19th some of the millers went to Luray Caverns, in Virginia. The convention of 1889 was successful in every way.

BOOKS AND PAMPHLETS.

Seven writers, clergymen, college professors and public men, some of them specialists of acknowledged standing, have associated themselves to discuss special questions of social interest and import and to prepare papers to be afterwards given to the public from time to time in the pages of *The Century*. The writers include the Rev. Professor Shields of Princeton, Bishop Potter of New York, the Rev. Dr. T. T. Munger of New Haven, the Hon. Seth Low of Brooklyn and Prof. Ely of the Johns Hopkins University. For each paper the author will be responsible, but he will have had the benefit of the criticism of the other members of the group before giving it final form. The opening paper will be printed in the November *Century*.

The varied contents of No. 115 of *Good Housekeeping* for September 28 cover almost the whole field of household economy. The opening paper is a description by Charlotte Deane of a delicious and elaborate lunch prepared at short notice for a party of hungry hunters by a cook in a Southern kitchen. Katherine Taylor treats of "Gilding" in her fifth paper on China painting. A very practical paper on the management of domestics is furnished by Lucy Page Stelle. A very interesting description of housekeeping in Paris gives information that might be made of use as well as of interest. There is a good paper on "The Sweet Potato," with recipes, an excellent one on "The Things we Throw Away," and an amusing sketch, "The Williamses as Fancy Cooks," by Maud Wyman. Katherine M. Hudson describes the "Festival of Days," and there are a great many other papers as good as these. The special departments, too, are varied and attractive.

The October number of *Scribner's Magazine* is a rich and entertaining one. The contents are as follows: "Within Sound of the Shouting Waters," Frontispiece. In the Valley; drawn by Howard Pyle, engraved by Frederick Juengling. "How I Crossed Masai-land," by Joseph Thomson, with illustrations from photographs. "The Last Giustiniani," by Edith Wharton. "The Master of Ballantrae—XII," by Robert Louis Stevenson. Begun in November, 1888—concluded. Illustrations by Wm. Hole. "Electricity in War." I. In Naval Warfare, by W. S. Hughes, Lt. U. S. N. II. In Land Warfare, by John Millis, First Lt. Corps of Engineers, U. S. A. "Song," by Duncan Campbell Scott. "In the Valley," Chapters IV-VII, by Harold Frederic. Begun in September—to be continued. Illustrations by Howard Pyle. "A Summer in Iceland," by Charles Sprague Smith, with illustrations. "The Common Roads," by N. S. Shaler. "The Miniature," by William McKendree Bangs. "The Life of Benvenuto Cellini," by Edward J. Lowell. With illustrations; engraving by T. Johnson, W. Miller and E. A. Clement. "Jacob's Faults," by Francis Doveridge. "Looking On," by Edward S. Martin. "A Scattering Shot at Some Ruralities," by Donald G. Mitchell. Address Charles Scribner's Sons, 743 and 745 Broadway, New York.



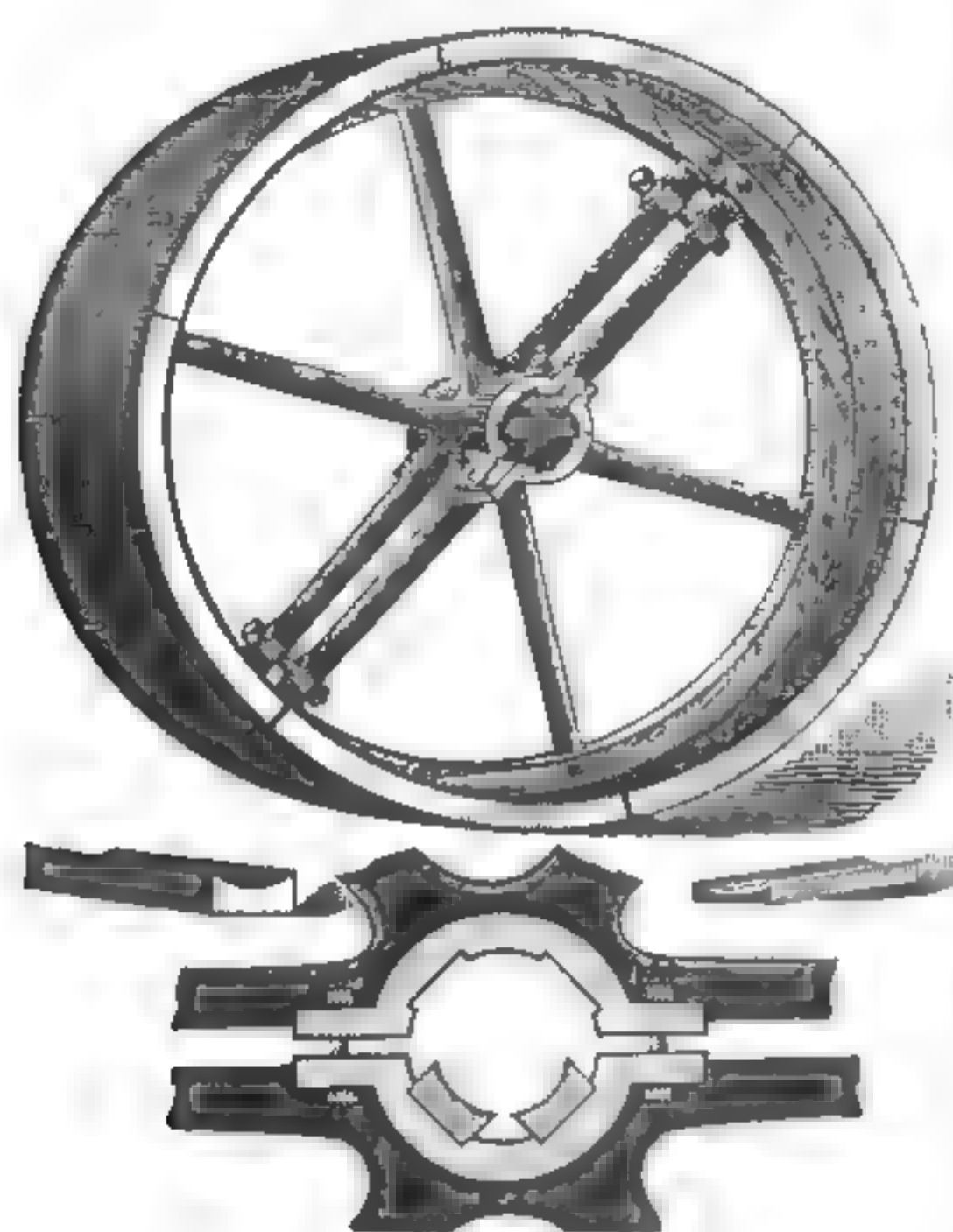
W.A. BINGHAM,
 MANUFACTURER OF
FLOUR SACKS.
 178 Duane Street,
 New York



THE BEST ARE THE CHEAPEST.

THE PATRONAGE of the MILLING TRADE is MOST RESPECTFULLY SOLICITED.

MILLERS' FLOUR SACKS A SPECIALTY.



BIRD & CRANE MFG. CO., KALAMAZOO MICH.

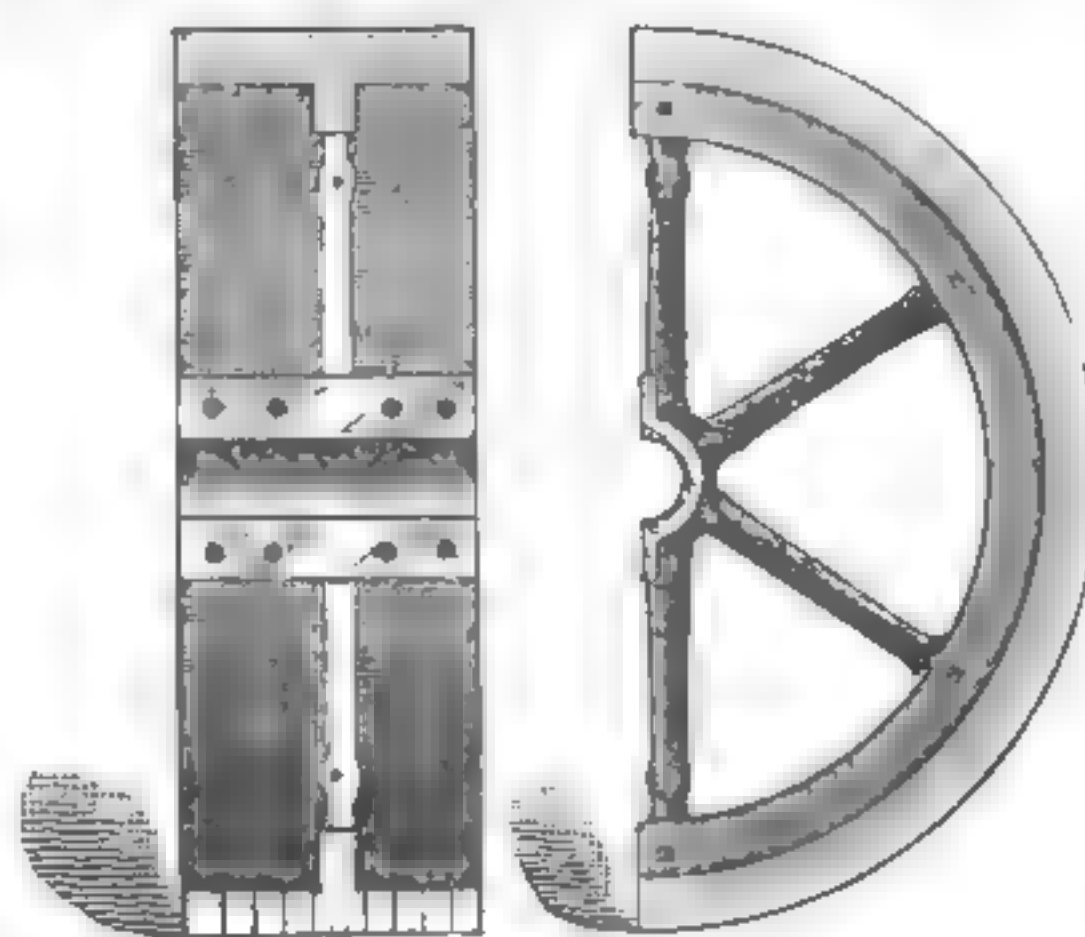
MANUFACTURERS OF PATENT

Wood Split Pulleys

WOOD RIM WITH IRON ARMS.

The Best Pulley on Earth!

Is very easily and quickly adjusted to Shaft. Has Patent Iron Bushings Interchangeable, to Fit Different Diameters of Shafts. Has FOUR or SIX Bearings on Shaft. This fastening never slips. Every Pulley strongly built and perfectly balanced.



SEND FOR CATALOGUE AND PRICE LIST.

THE LADIES FAVORITE
THE LIGHT RUNNING
NEW HOME
THE FINEST SEWING MACHINE THE BEST ATTACHMENTS
NEW HOME SEWING MACHINE CO. ORANGE, MASS.
CHICAGO, ILL. 28 UNION SQUARE, N.Y. SAN FRANCISCO, CAL.
ATLANTA, GA. ST. LOUIS, MO. FOR SALE BY DALLAS, TEX.

N. BUSSENDORFFER.



The Cincinnati Corrugating Co.

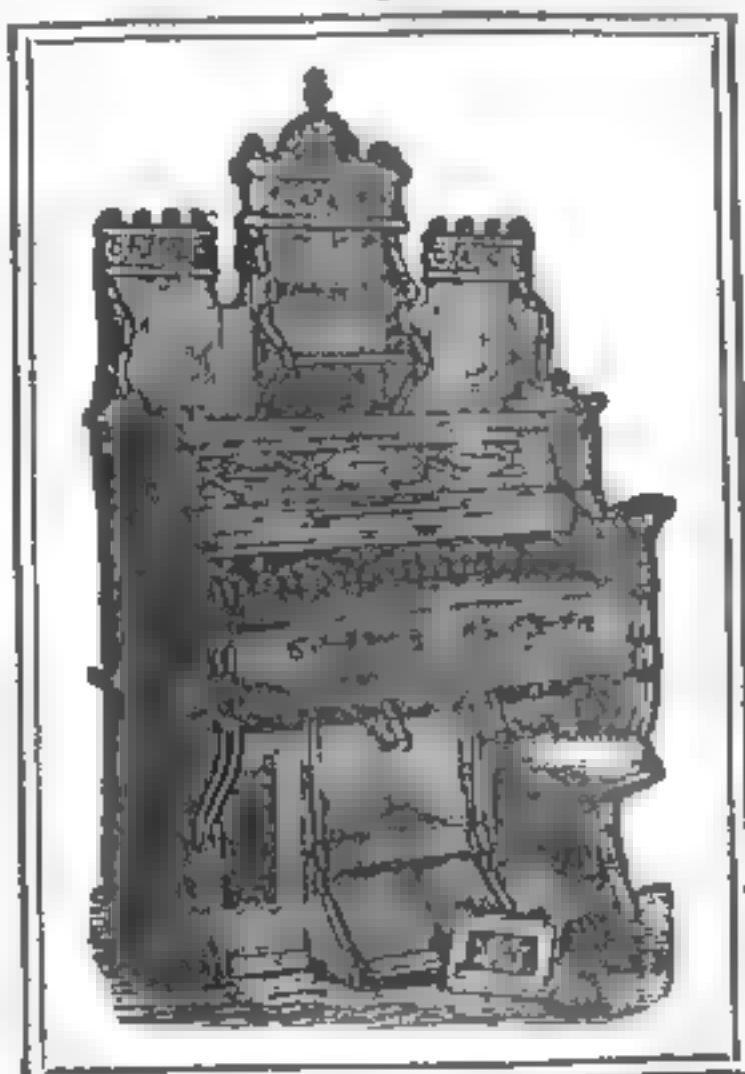
SHIPPERS CAN SAVE TIME AND TROUBLE AND CASH
BY USING BARLOW'S PATENT MANIPULATOR
SHIPPING BLANKS
SEND FOR SAMPLE SHEET & PRICES
BARLOW BROS. GRAND RAPIDS, MICH.

The BEST PIANOS and ORGANS

IN THE WORLD

Are manufactured and sold for the least money by

THE BEST ARE THE CHEAPEST.



Write us for Illustrated Catalogue, Free.

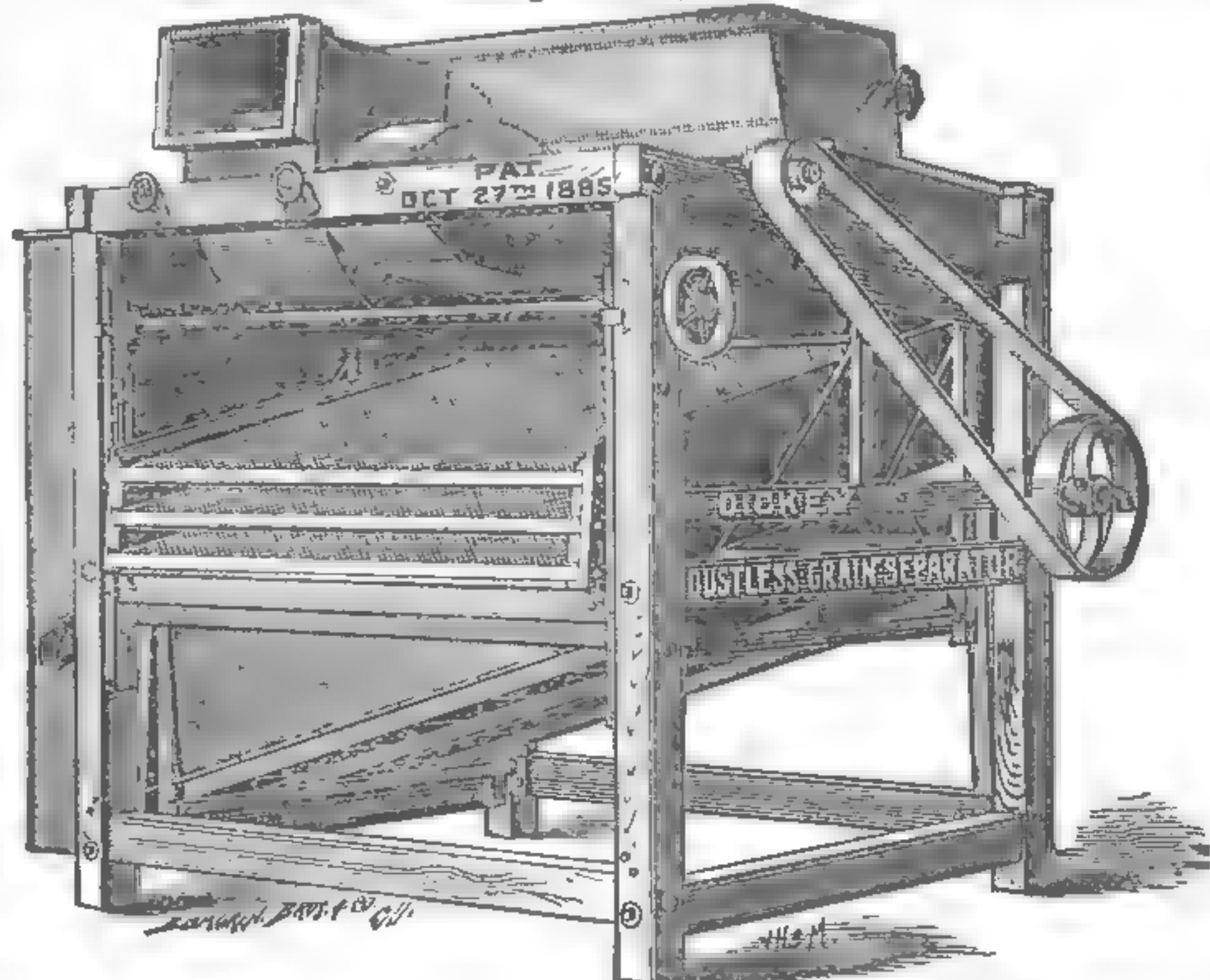
BEETHOVEN
PIANO ORGAN CO.
WASHINGTON, WARREN CO. N.J.

MENTION THIS PAPER.

DICKEY DUSTLESS GRAIN AND FLAX SEPARATOR

This Separator is our latest and most perfect, and guaranteed to be the superior of any now on the market. This machine, as can be seen by the cut, is not a warehouse fanning mill with one patent attachment, but is a Dustless Separator, made for the express purpose of thoroughly cleaning and separating all kinds of grain in large quantities; its construction is such that the working machinery and weight is all within the parts or anchors.

WE CLAIM FOR IT SUPERIORITY.



WE CLAIM FOR IT SUPERIORITY.

We claim for it Superiority over everything of the kind made, in simpleness, durability, saving of power, capacity and cost of construction. Its height will accommodate any number of spouts from different points, without moving machine. They have a capacity from 700 to 1,500 bushels per hour. We also control exclusively the manufacture of the celebrated Dickey Giant, End and Side Shake, Warehouse Mills, that have attained such a world-wide reputation. Sent on approval to any reliable party. For full particulars address,

A. P. DICKEY MANUFACTURING CO. Successors to Dickey & Pease, **RACINE, WIS.**

EUROPEAN ECHOES.

AN example of the depreciation of agricultural land in England was afforded recently when a farm in Lincolnshire was offered for sale. The highest bid was £2,100, although the property cost £6,700 18 years ago, and a considerable sum has since been expended in improvements.

UNDETERRED by the disastrous result of the maize ring speculation, an influential syndicate of capitalists has, it is said, been formed for the purpose of buying and holding the new wheat of Hungary. It is believed that such an operation would be materially facilitated by the shortness of this present crop.

THE London *Standard's* Vienna correspondent says: This year the harvest in Hungary is so bad that the government is already taking measures to avert a threatened famine. The distress is greater in a number of the northern counties and in Transylvania. Not only is there no food for the population, but there is no seed for the next sowing, nor any fodder for the flocks and herds.

A HUNGARIAN miller, after a series of experiments, declares that cold grinding is as detrimental as hot grinding and asserts that rolls can not grind so warm as to injure the flour. He says: "The roller-mill can not grind too warm, and the temperature which is obtained by rapid motion is just that which is necessary to set up that sweet fermentation in the flour which gives bread its peculiarly nutty flavor and which is wanting in flour that, owing to slow grinding, does not reach the necessary temperature for the transformation of its elements into sugar."

THE European wheat situation on September 9th was summed up by the London "Miller" as follows: Belgium and Holland, with good harvests, are yet likely to buy over 2,000,000 quarters of foreign wheat. France is standing aside from competition in buying, but various sorts of foreign wheat, wanted for color, strength or for special districts, should be imported to the extent of 2,000,000 quarters to 3,000,000 quarters, even if the French measured crop is reckoned sufficient for food. Prices, 36s. 6d. to 43s. Germany is estimated to want over 2,000,000 quarters of wheat and a considerable import of rye. Markets have lately advanced 1s. to 2s. per ton. Italy, Switzerland and the Peninsula are expected to take 5,000,000 quarters of foreign wheat, although Spain had a good crop. That of Italy was seriously deficient. Russia is credited with power from old and new crops to export 11,000,000 quarters of wheat, compared with the 16,000,000 forwarded in the past season. Present sellers manifest much firmness, but with new English wheat coming forward millers do not bid for Black Sea wheat with the freedom of a month ago. The 3,000,000 quarters of wheat exported last season by Austria-Hungary is not represented this year at all.

SAYS the London "Miller" of September 9: Instances are multiplying of a great yield of wheat, with sample of good quality, being produced this season. Threshing out last Saturday, on a farm in Norfolk, the result was equal to 11 coombs, 44 bushels, per acre; and a yield of 32 to 40 bushels per acre is commonly reported. Coincidentally complaints increase of deficient yields in other cases, and the common verdict is the wheat crop of 1889 is a very irregular one. But the exchanges are now receiving numerous offers of the fresh crop. Millers are wanting supplies and probably would have willingly paid 1s. to 2s. per quarter for wheat more than at present, had offers been short. As it is, dry weather and a choice of samples allow the miller to get useful new wheat at 28s. to 32s. for red, while 32s. to 36s. for white seems the present limit. Without the brilliancy of last week recent weather has mainly favored harvest work, excepting the great electrical down-pour which flooded many districts and soaked lately-built grain stacks on Monday night and Tuesday morning. Anyhow, the markets have

had plenty of new wheat on offer in the country; and the London dock laborers' strike, damming up foreign supplies, has but stimulated country agents to bring forward offers of country deliveries. The effects of these and other matters are that most sorts of wheat are 1s. to 2s. cheaper from a fortnight ago. California is now 34s. 3d. where it was 36s. Other sorts are only irregularly lower, in competition with new English at 28s. to 36s. per quarter, 30s. to 33s. being the middle range.

MILLERS TO THE AMERICAN CONGRESS.

Following are the committees for various states represented in the Millers' National Association, selected to communicate with the governors of their states, urging the appointment of delegates strongly representing the milling interest to the International American Congress which will be held in Washington, D. C., in October:

California—Los Gatos Mfg. Co., Los Gatos; Starr & Co., 16 California street, San Francisco; Horace Davis & Co., San Francisco.

N. Dakota—Jno. M. Turner, Mandan; Gibbs & Edwards, Mayville; D. B. Shotwell, Fargo.

Delaware—Wm. Lea & Sons, Wilmington.

Illinois—Eckhart & Swain, Chicago; D. R. Sparks, Alton; E. C. Kreider, Jacksonville.

Indiana—D. H. Ranck, Indianapolis; Blanton, Watson & Co., Indianapolis; M. S. Blish, Seymour.

Iowa—J. J. Snouffer, Cedar Rapids; G. N. Minor, Cedar Falls; City Mill Co., Sioux City.

Kansas—Crosby R. M. Co., Topeka; Hargis & Clark, Wellington; F. Goodnow & Co., Salina.

Kentucky—Ballard & Ballard & Co., Louisville; Miles & Son, Frankfort; Lexington R. M. Co., Lexington.

Maryland—P. H. Macgill, Baltimore; W. E. Woodyear, Baltimore; J. O. Norriss, Baltimore.

Michigan—F. W. Stock, Hillsdale; D. B. Merrill, Kalamazoo; H. A. Hayden, Jackson.

Minnesota—C. A. Pillsbury, Minneapolis; A. C. Loring, Minneapolis; Geo. Tieson, St. Cloud.

Missouri—Carter, Shepherd & Co., Hannibal; Cowgill & Hill, Carthage; E. O. Stanard, St. Louis.

Nebraska—C. C. White, Crete; Martin, Verig & Co., Central City; D. H. Harris, Bennett.

New York—Geo. Wilson, Rochester; Geo. Urban, Buffalo; Jewell Milling Co., Brooklyn.

Ohio—F. Schumacher, Akron; H. Baldwin, Youngstown; Cleveland Milling Co., Cleveland.

Pennsylvania—Oliver & Bacon, Erie; Marshall, Kennedy & Co., Pittsburgh; L. Levin, Lancaster.

Tennessee—J. J. McCann, Nashville; Memphis Mill Co., Memphis.

Texas—Texas Star F. M. Co., Galveston.

Wisconsin—Wm. Sanderson, Milwaukee; L. R. Hurd, Milwaukee; Globe Milling Co., Watertown.

COTEMPORARY COMMENT.

It is not a pleasant task to call attention to such misleading and blundering work by a journal (reference is made to one of the peculiar booby blunders in "Bradstreet's") which assumes for itself so much as a statistical authority, but its persistency in treating with an air of contempt the work of others is an invitation for criticism upon its own poor service, while the unreliability of its statistical exhibits and deductions so frequently evidently impairs confidence in the value of the better work performed.—*Cincinnati "Price Current."*

Flour experts insist that, owing to the superior character of the new crop wheat, it is absolutely safe without any admixture of old wheat. Still there has been some recent depression in values, and contracts can be made lower now than in the past, and, while succeeding weeks show the later prices to be lower than the earlier, there is small prospect of demand getting ahead of actual and even pressing necessities, in spite of immunity from heating claimed for the new crop.—*Minneapolis "Market Record."*

It is here then, where abounding evidences of the growth of the various agencies of overshadowing greatness are surely to be soon manifested, that the World's Fair of 1892 will find fitting locality. No other place displays, in equal degree, or with equal profusion, or by equal obtrudance, those special qualities, both mental and material, which characterize the American people.—*Chicago "Industrial World."*

Lloyd & Sterrett

COR. 16TH AND STATE STS.,

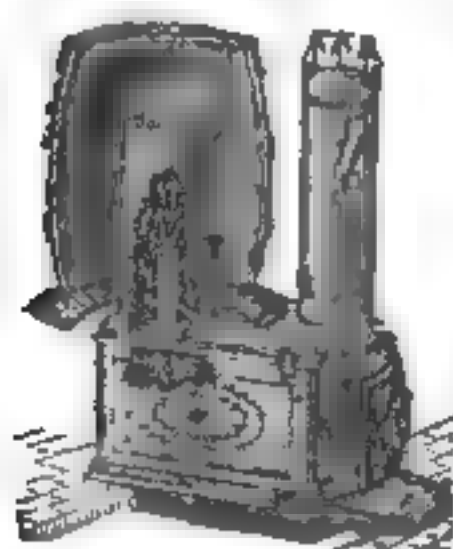
ERIE - - PENN.

THIS SPACE BELONGS TO
LLOYD & STERRETT
ENGINES AND BOILERS,
ERIE, - - - PENN.

Lloyd & Sterrett

COR. 16TH AND STATE STREETS,

ERIE, - - PENN.



**MOORE'S
PATENT
BARREL HEATER.**

For all
kinds of coop-
erage. Thousands
in use in all parts of the
U. S. Send for Circular.

JOLIET STOVE WORKS JOLIET ILL.

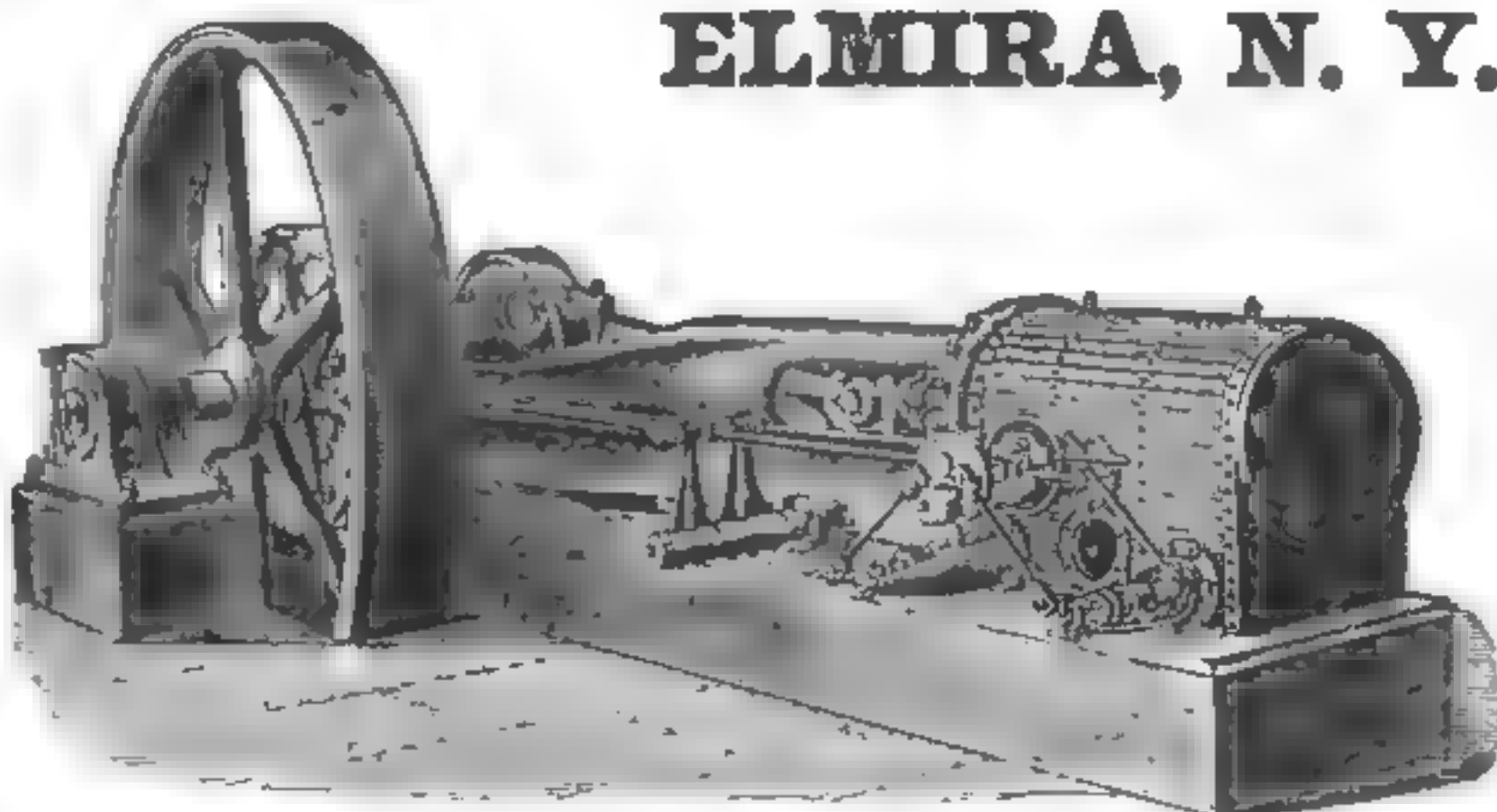
PAYNE HIGH SPEED CORLISS ENGINE

SHAFT GOVERNOR COMBINED WITH CORLISS WRIST-PLATE.

ECONOMY OF FUEL.

REGULATION EQUAL TO ANYTHING IN USE.

B. W. Payne & Sons,
ELMIRA, N. Y.



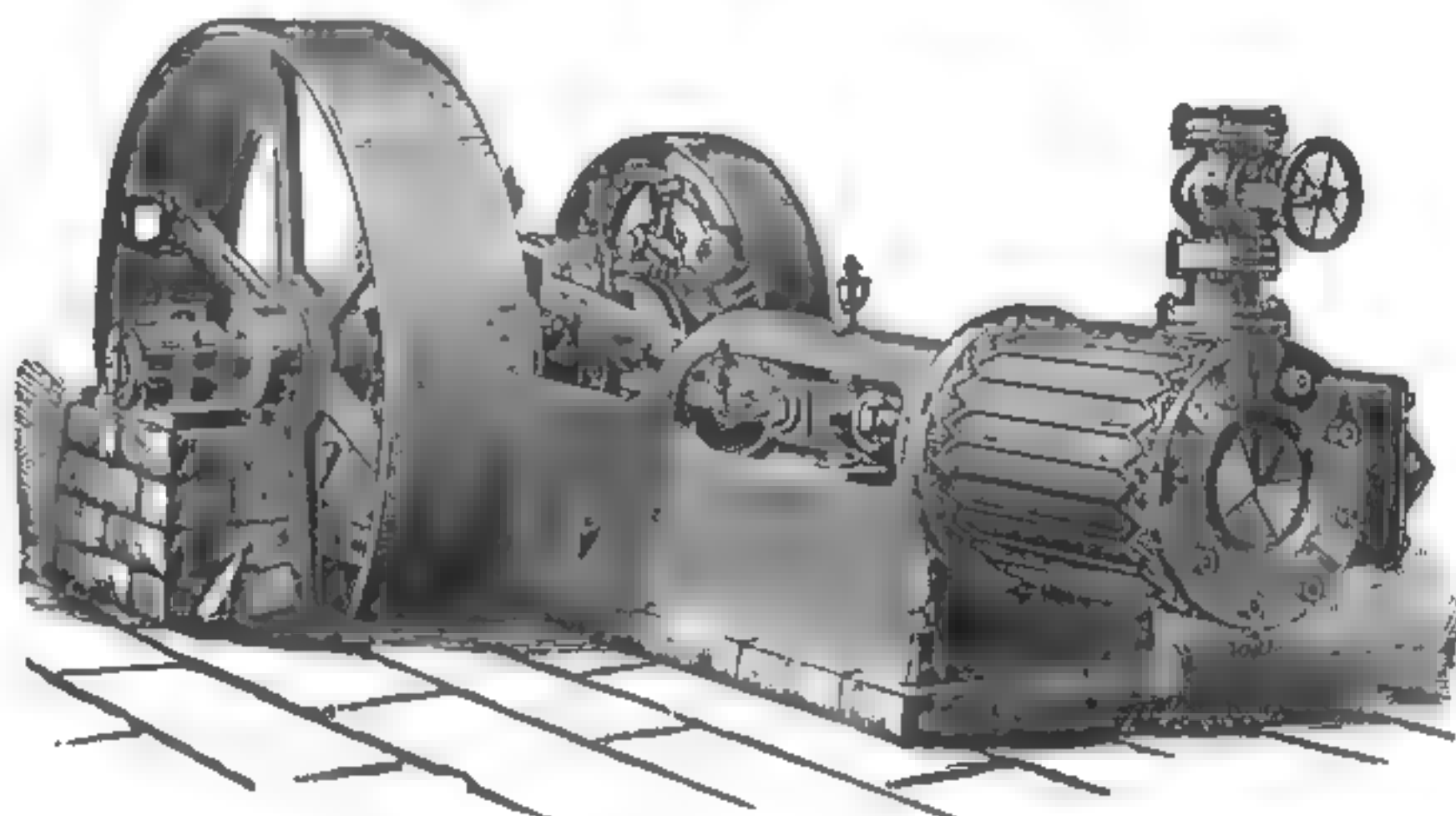
10 S. Canal Street,
CHICAGO, ILL.

45 Dey Street,
NEW YORK.

Hill, Clark & Co.
BOSTON, MASS.

AUTOMATIC ENGINES FROM 2 TO 200 HORSE POWER.

Economic Power Plants



Especially Adapted to Electric Lighting and

WOOD-WORKING ESTABLISHMENTS

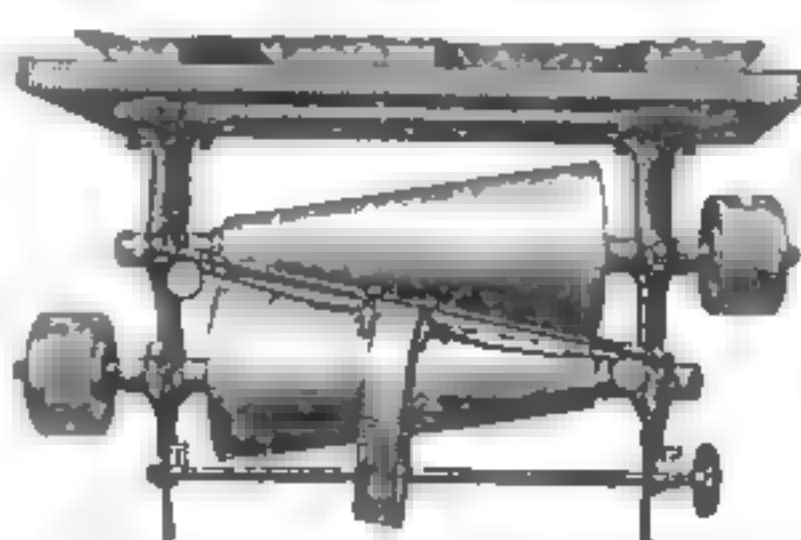
MANUFACTURED BY

VALLEY IRON WORKS, WILLIAMSPORT, PENN.

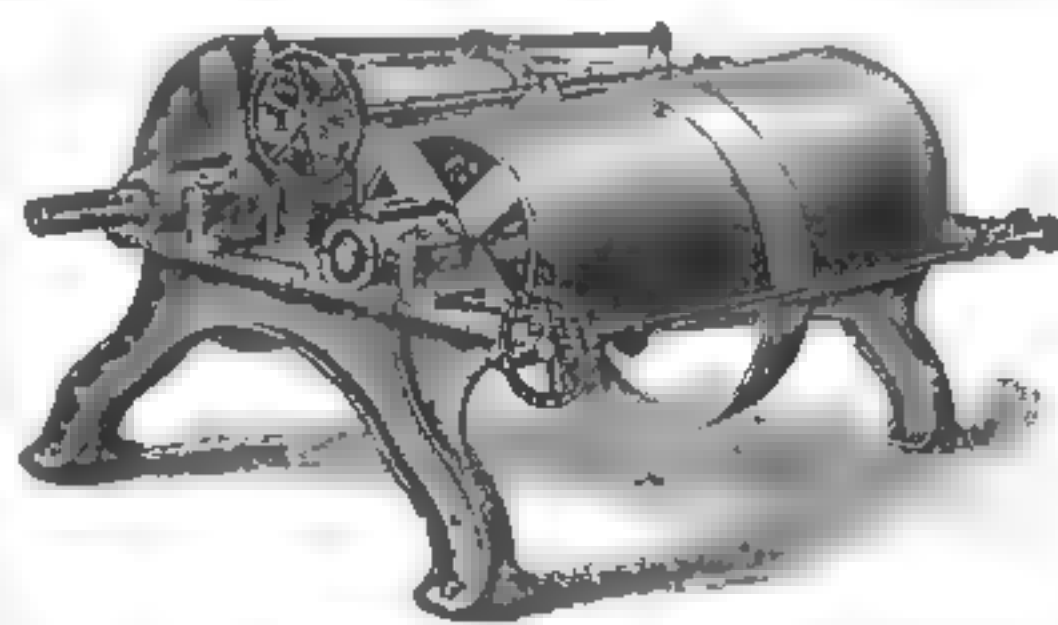
Please Send for Our New Catalogue and Mention "The Milling World."

THE EVANS FRICTION CONE & FRICTIONAL GEARING

"PATENTED."



This cut represents a set of hanging cone pulleys. This pattern is intended for that class of machinery that stops and starts at the same speed, and at the same time be able to change the speed more or less while running. These cones are also fitted with a governor where a steady motion is required and the initial power is



fluctuating. All sizes made from 1/2 Horse Power to 50 Horse Power. SEND FOR ILLUSTRATED CATALOGUE.

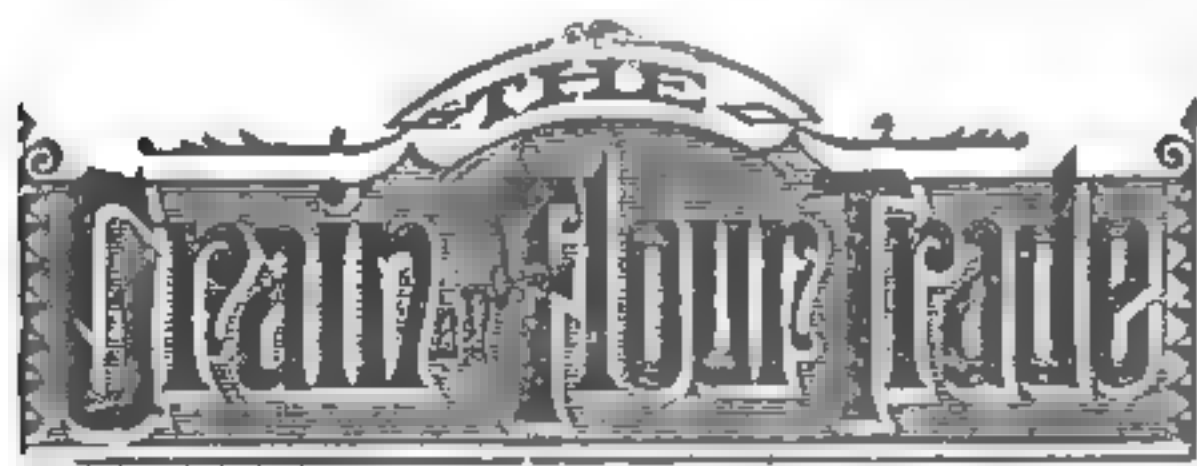
EVANS FRICTION CONE CO., 85 Water St., BOSTON.



KEEP YOUR BELTS FROM SLIPPING

And Save Your Power by Using FRICTION COVERING for Pulleys. Agents Wanted. Satisfaction Guaranteed- Easily Applied. No Rivets. Effective.

NATIONAL PULLEY COVERING CO., BALTIMORE, MD.



OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., Sept. 28, 1889.

Friday of last week saw dull and firm markets at opening and lower at closing on realizing by longs. September wheat closed at 84½c. Options 950,000 bushels. September corn closed at 40¼c. and oats at 26½c. Wheat flour was quiet generally, although trade for the West Indies and South America was fair. The minor lines showed no marked features.

Saturday was a cemetery day in the markets, with wheat dead, corn lower, oats easier and flour duller. September wheat closed at 84½c. Options 480,000 bushels. September corn closed at 40¼c. and oats at 26c. Wheat flour showed liberal receipts and very small trading at nominally unchanged prices. The other lines were featureless.

Monday brought stronger and generally higher markets, on lighter offering in Europe, stronger cables and weather reports. September wheat closed at 85c. Options 1,000,000 bushels. September corn closed at 40¾c. and oats at 26c. Wheat flour was easier at opening and stronger at closing, in sympathy with wheat. The minor lines were featureless all around. The visible supply in the United States and Canada was:

	1889. Sep. 21.	1888. Sept. 22.	1887. Sept. 24.
Wheat.....	17,196,572	31,011,175	30,162,908
Corn.....	12,662,727	9,960,609	7,258,903
Oats.....	5,923,570	5,927,979	4,854,279
Rye.....	1,132,895	679,974	301,277
Barley.....	474,833	256,452	959,536

Tuesday brought better cables and short coverings, which made the markets stronger, except on corn. September wheat closed at 85½c., against \$1.03 on the corresponding day of last year. Options 1,500,000 bushels. In Chicago the shorts were buying freely, and Hutchinson was reported to have sold 2,000,000 bushels of May. Export trade was fair. September corn closed at 40¼c. and oats at 26½c. Wheat flour was firmer generally, at old prices, with more buyers and fewer sellers at those figures, though winters were held a little higher at the close, without getting any advance; but old springs were getting pretty well used up, and the trade would not buy the new in advance of their wants, while ocean freights were scarce, even at the late advance to 20s., which prevented exporters from filling fair orders received at old prices, with less shipping brands offered. The minor lines showed no changes of importance.

Wednesday was a day of irregular and active wheat markets, with higher prices at closing. September wheat closed at 85½c., October at 85½c., November at 86½c., December at 88c., January at 89c. and May at 92¼c. Private European cables were steady and there was some activity among exporters. A dispatch from Statistician Dodge of the Washington Agricultural Bureau stated that the wheat crop of Europe is 10 per cent. short of a full crop. The average for five years was 1,180,000,000 bushels. This would make 118,000,000 bushels shortage, instead of the 230,000,000 bushels estimated by the Vienna Congress. Milmine and other houses sold freely in Chicago on this dispatch. The Agricultural Bureau of Canada estimates its wheat crop at 6,000,000 bushels less than estimated in July and a half million less than last year, and 8,500,000 under the average of the last seven years. These two dispatches affected the market unfavorably to the bulls, and hence the more free realizing, especially in Chicago. Public cables were ¼d. up on wheat in Liverpool and 3@8d. in London. Options in New York 6,000,000 bushels. September corn closed at 40¾c. Options 386,000 bushels. September oats closed

at 26½c. Options 350,000 bushels. Rye was nominal, with buyers and sellers 4c. apart. The quotations were: No. 2 Western, asked, 49c. c. i. f.; 50c spot, afloat; State afloat, 56@56; Jersey and Pennsylvania on track, 50@54c. and Western at 47@49c as to quality. Barley was unsalable, as maltsters were not ready to take hold of new crop till they can get rid of the stocks of old. Malt was dull and still nominal at the following quotations, with plentiful offerings and little demand: Two-rowed State, 75@82½c; six-rowed State, 80@85c; country-made Canada choice, 95c asked, and city 95@91. Mill-feed was steady to firm and quiet, with dealers well supplied and mills in city generally pretty well sold up, which kept prices steady through the dullness. The quotations were: 40, 60 and 80-lb. 55@60c; 100-lb. 77½@82½c; rye, 70c.

Wheat flour fluctuated in sympathy with wheat. Trade was moderately active. After fluctuating considerably, and selling 25,000 barrels for home and 10,000 barrels for export trade, the close was decidedly stronger. At the end of the day the hesitation of the buyers nearly all disappeared, when wheat recovered the early loss, and home trade bought both winter and springs of all the trade brands freely of every thing offered at old prices, and even at 5c. advance on desirable kinds, with exceptional advances of 10c. which was generally demanded on advanced millers' limits at the close, except on choice old patent springs, which sold more freely at old prices, \$5.25@5.35, and new at \$5.00@5.10, and even \$5.15, though some asked more. The quotations for the day were as follows:

SPRING FLOUR.

	Sacks.	Barrels.
No grade.....	\$1.55@1.85	\$....@...
Fine.....	1.95@2.20	2.10@2.35
Superfine.....	2.20@2.45	2.45@2.80
Extra No. 2.....	2.45@2.75	2.70@3.00
Extra No. 1.....	3.15@3.35	3.40@3.90
Clear.....	3.25@3.50	3.55@3.65
Straight.....	3.90@4.25	4.30@4.85
Patent.....	4.75@4.95	4.95@5.35

WINTER FLOUR.

	Sacks.	Barrels.
No grade.....	\$1.70@2.00	\$....@....
Fine.....	2.20@2.50	2.30@2.60
Superfine.....	2.55@2.75	2.55@2.80
Extra No. 2.....	2.60@2.90	2.70@3.00
Extra No. 1.....	3.00@4.00	3.15@3.95
Clear.....	3.55@3.90	3.85@4.15
Straight.....	4.15@4.25	4.20@4.50
Patent.....	4.40@4.60	4.60@4.90

CITY MILLS.

W. I. grades.....	4.25@4.30
Low grades.....	2.60@2.65
Patents.....	5.00@5.60

Rye flour was higher on choice grades. Prices ranged from \$2.90@3.25 a barrel. Buckwheat flour was steady and in fair demand at \$2.00@2.90 for fresh ground old and new. Sales were fair. Corn products were dull and easier at the following quotations: Coarse meal 78@81c; fine yellow 90@93c; fine white 95c@91; Brandywine and Sagamore \$2.70; Western and Southern \$2.85@2.70; grits \$2.60, and hominy \$2.50@2.60.

Thursday was a day of active markets generally. September wheat closed in New York at 87c. Options 12,512,000 bushels. General business fair. Exports 16,000 bushels. September corn closed at 40¼c. Exports 300,000 bushels. Options 696,000 bushels. September oats closed at 26c., with dull business. Wheat flour was stronger, with fair sales. The minor lines were unchanged.

BUFFALO MARKETS.

WHEAT—There was a brisk demand for spring wheat to-day, considering the advance in prices there was a brisk day's trade. Sales reported were as follows: 2,500 bu No. 1 hard at 91¼c, 10,000 bu do do at 90c, 5,000 bu No. 1 Northern at 87c, and 25,000 bu do do c.i.f. at 85½c early; \$1 per bushel was asked for No. 1 hard of crop of '87, and sellers would not shade that price under any consideration. Winter wheat in active demand for red and market firm. Sales comprised 6,000 bu No. 3 extra at 79c in store, 3 carloads No. 2 red at 87c, 1 do No. 3 red at 77½c on track, 2,000 bu old No. 2 red at 75½c in store, and 1,700 bu sample at 82c No. 1 white California was quoted at 90c, and 87½c asked

for No. 1 Northern at the close. CORN—Opened with an active demand for car lots and a firm market, but closed weak and lower. No. 2 yellow sold at 37@37½c in store at the opening; No. 2 corn at 87½c and No. 3 corn at 88½@89c; 10 carloads No. 2 yellow sold at 88c, which was the highest price paid for that grade all day. At the close No. 2 corn was quoted at 86½@86¾c, No. 2 yellow at 87c and No. 3 corn at 88½@88¾c. OATS—In light demand offerings but market steady; 8 carloads choice mixed sold at 24½c, and 1 do common at 24c, which were the only sales reported. No. 3 white was quoted at 24@24½c and No. 2 do at 25¼@26¼c. RYE—Dull; 48c asked for No. 2 Western on track. BARLEY—Correct prices can not be obtained, with the exception of one grade, which is Western and quotable within the range of 40 and 60c. The cargo of the Belle Hanscom is offered at 55c, but no buyers can be found. CANAL FREIGHTS—Strong and unchanged. Wheat to New York, 5c; corn, 4½c; oats, 3½c. Corn to Albany, 4c; corn to Schenectady and Rotterdam, 3½c; to Utica, 2½c; wheat to Syracuse, 2½c; corn, 2½c; wheat to Rochester, 2c. LUMBER rates to New York, \$2.50; to Albany, \$2.00. RAILROAD FREIGHTS—To New York, Baltimore and Philadelphia rate points on grain, flour and feed 18c per 100 lbs; to Albany and West Troy, 10½c; to Boston, 15½c. FLOUR—City ground—Patent spring, \$6.00@6.25; straight Duluth spring, \$5.75@6.00; bakers' spring, best, \$5.50@5.75; do rye mixture, \$5.75@6.00; patent winter, \$6.75@7.00; straight winter, \$4.75@5.00; clear winter, \$4.50@4.75; cracker, \$4.50@4.75; graham, \$4.50@4.75; low grade, \$2.75@3.00; rye \$3.00@3.25 per bbl. OATMEAL—Akron, \$6.00; Western, \$5.75 per bbl; rolled oats, in cases, 72 lbs, \$3.25. CORNMEAL—Coarse, 85c; fine, 90c; granulated, \$1.50 per cwt. MILLFEED—City ground coarse winter, \$12.00@12.50; fine winter, \$12.00@12.50; finished, \$14.00@14.50 per ton; coarse spring, 11.50@12.00; fine spring, \$11.50@12.00.

Says Chicago *Daily Business* of September 25: A story got started yesterday that Hutchinson had chartered vessel room for 800,000 bushels of corn. He really took room for a lot of corn, but it was less than 200,000 bushels, and the rate he paid was 2¾c. As to the reports about him having September wheat cornered, he says he has no personal interest whatever in September wheat, and that his only interest as a commission man is that he has 5,000 bushels bought for one customer and 5,000 bushels sold for another.

A. H. Sutherland's elevator, Humboldt, Ill., burned; loss \$5,500; insurance \$2,900.

The Farmers' Alliance, Dexter, Tex., build a corn-mill.



THE "HARLOW" Positive Feed Lubricators.

For Marine and Stationary Engines, Steam Pumps, Electrical and other Machinery.

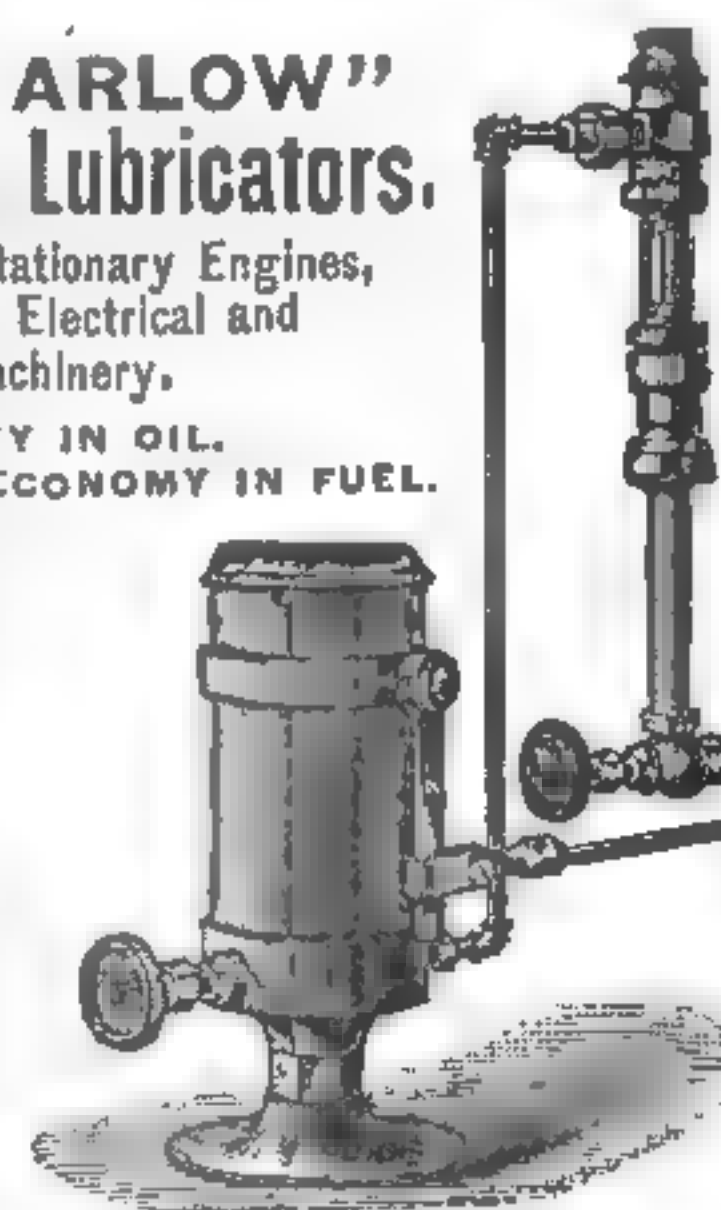
MAXIMUM ECONOMY IN OIL.
MARKED ECONOMY IN FUEL.


Not dependent upon or operated by Steam Pressure, Condensation or Gravity.

Not affected by changes of temperature.

BEING operated by some moving portion of the engine or machine to be lubricated, the "Harlow Lubricator" starts and stops with the engine or machine being lubricated, without requiring the slightest attention from the engineer or operator, always delivering the oil in any amount from a drop to a constant stream. The cup can be filled at any moment while the engine or machine being lubricated is in operation, without causing any leakage either of oil or steam.

Harlow Lubricator Mfg. Co. BOSTON, Mass. U. S. A.





RELIANCE OIL & GREASE CO., CLEVELAND, O.,
— MANUFACTURERS OF —

Finest Lubricants for Milling Plants. A Challenge to the World.


SPECIAL HIGH GRADE PRODUCTS

WRITE US. "VALVE OLEINE"—875 Degrees Fire Test, Cylinder Oil. "RUSSIAN"—Engine and Machine Oil.
 "CHIEF"—Roller Mill Lubricant. "ANCHOR"—Roller Mill Grease.
 "NIAGARA"—Belt Grease. "CHELSEA"—Scale Solvent, Best on Market. **Agents Wanted.**

FREE—SAMPLES, CATALOGUE, AND ALL INFORMATION.

EAGLE IRON WORKS,
DETROIT, MICH.

MANFRS. OF HIGH GRADE



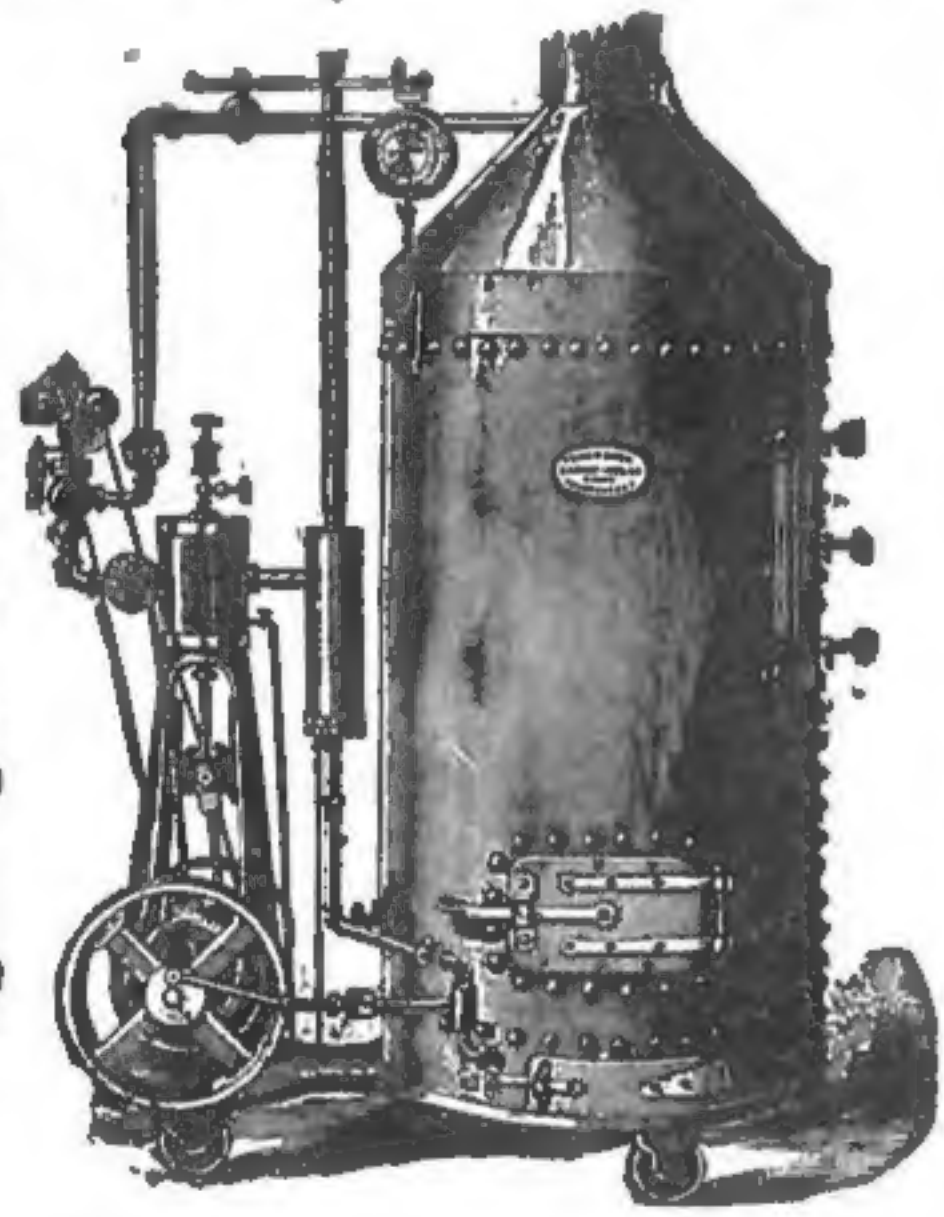
BOILERS

**HORIZONTAL, UPRIGHT
PORTABLE AND MARINE.**

Oil Tanks & Smoke Stacks,
HEAVY SHEET IRON WORK.
CORRESPONDENCE SOLICITED.

**TONAWANDA
ENGINE AND BOILER WORKS**
A Large Assortment of Machinery.

The Best 6-Horse Power Semi-Portable Upright Engine and Boiler Made.



SPECIAL PRICE. GUARANTEED.

SEND FOR CATALOGUE.
ARMITAGE, HERSCHELL & CO.
 Tonawanda N. Y.

New Improved Patent Head Linings.



DESCRIPTION.
 These Linings are curved edgewise and flatwise, besides having the edge beveled, so as to make them fit the head and chine PERFECTLY, without springing them edgewise when nailing.

If you use them once you will have NO OTHER. No need of pounding fingers, as the ends do not have to be held down while nailing. They are much more convenient to nail and look better than any other. They are first tied in bundles of two hundred, and, when dry, are put into bales, weighing about fifty pounds each, and tied with two strong wires, to make them handle better and to prevent loosing out in transit.

Write for prices and state about the number you use per year.

To convince you of their merit, and for the purpose of introducing them, I will ship a sample order of from five to ten thousand at a REDUCED RATE.

SEND US A TRIAL ORDER. SATISFACTION GUARANTEED.

J. H. PETERS,
 Owner of Patent and Manufacturer,
 COLEMAN, MICH.

"Cooper on Belting"

A Treatise on the Use of Belting for the Transmission of Power. With illustrations of approved and actual methods of arranging Main Driving and Quarter Twist Belts, and of Belt Fastenings. Examples and Rules in great number for exhibiting and calculating the size and driving power of belts. Plain, Particular and Practical Directions for the Treatment, Care and Management of Belts. Descriptions of many varieties of Beltings, together with chapters on the Transmission of Power by Ropes; by Iron and Wood Frictional Gearing; on the Strength of Belting Leather; and on the Experimental Investigations of Morin, Briggs, and others, for determining the Friction of Belts under different tensions, which are presented clearly and fully, with the text and tables unabridged. By JOHN H. COOPER, M. E. Second Edition. One vol., demi octavo. Cloth, \$3.50. Sent post-paid on receipt of price. Address,

McFAUL & NOLAN, BUFFALO, N. Y.

**THE STEVENS
PORTABLE MILLS**
 For CORN and
 FEED GRINDING
 Genuine French
BUHR STONES
 Power Corn Sheller
 Prices Below the Lowest
A.W. STEVENS & SON
 AUBURN, N. Y.
 Mention this paper.



**ALCOTT'S
IMPROVED
TURBINE
WATER
WHEEL**



THIS WHEEL GIVES HIGH RESULTS, AND IS ACKNOWLEDGED THE BEST, MOST PRACTICAL AND EFFICIENT TURBINE MADE. FOR SIMPLICITY, DURABILITY, AND TIGHTNESS OF GATE IT HAS NO EQUAL.

State requirements and send for Catalogue to

T. C. ALCOTT & SON,
 MOUNT HOLLY, N. J.

The LIPPOLD DUSTLESS CORN SHELLER & CLEANER

MANUFACTURED BY

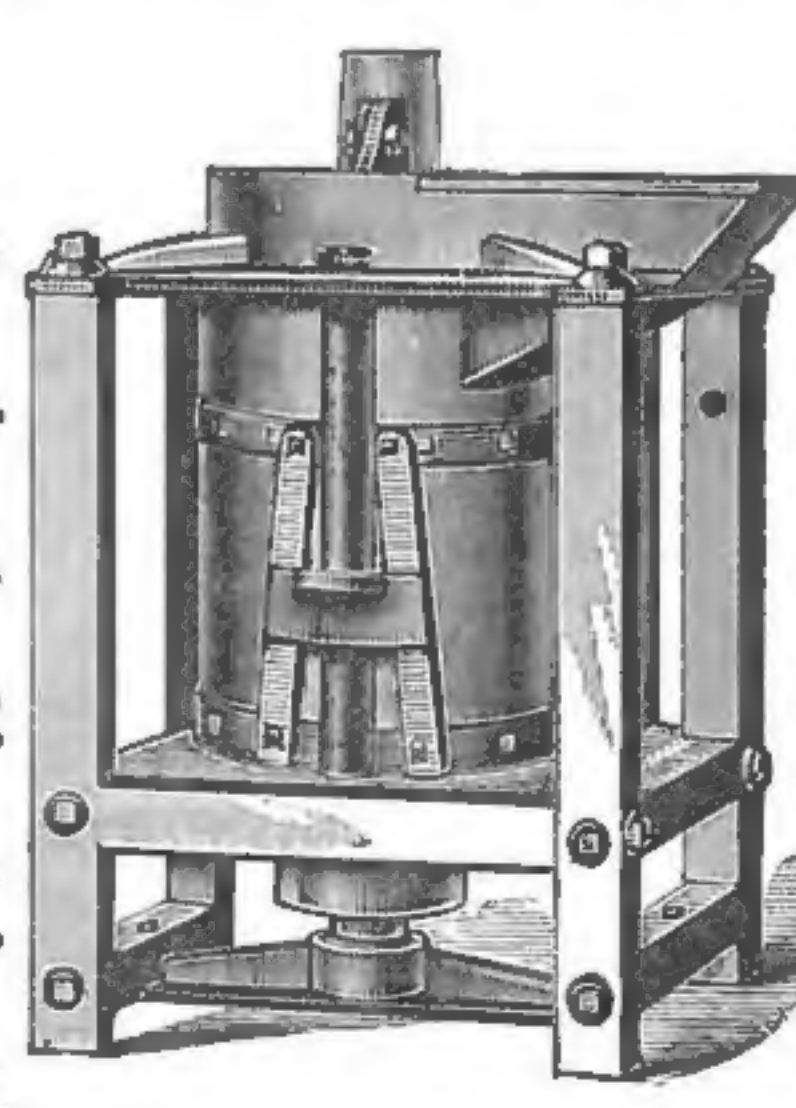
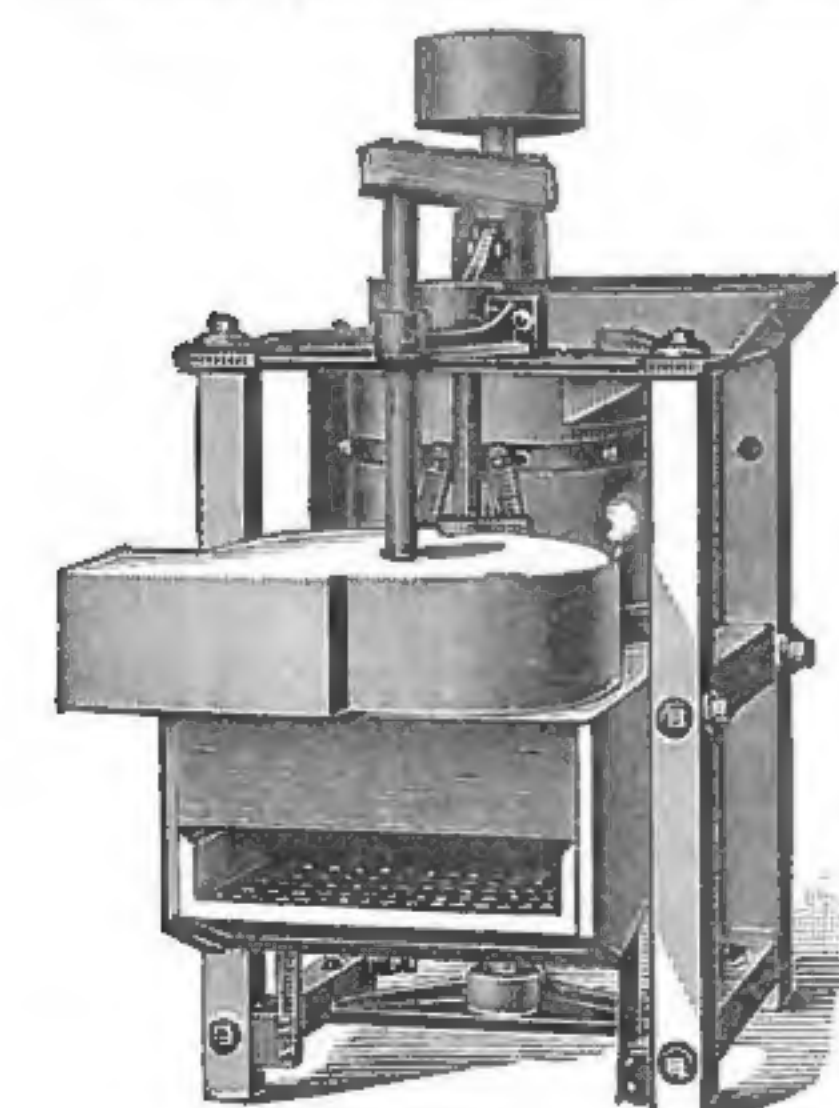
The LIPPOLD MFG. CO.
 ERIE - - PENN.

THE HIGHEST CAPACITY for the LEAST MONEY.

The Best Machines for Mills and Elevators.

Machines Sent on Thirty Days' Trial.

SHELL UNHUSKED CORN AND CLEAN IT PERFECTLY.



WRITE FOR ILLUSTRATED CIRCULAR WITH PRICES.
 NAME THIS PAPER.

INSURE IN THE TRADERS & TRAVELERS

Accident Company,
287 BROADWAY, NEW YORK.

BENEFITS.

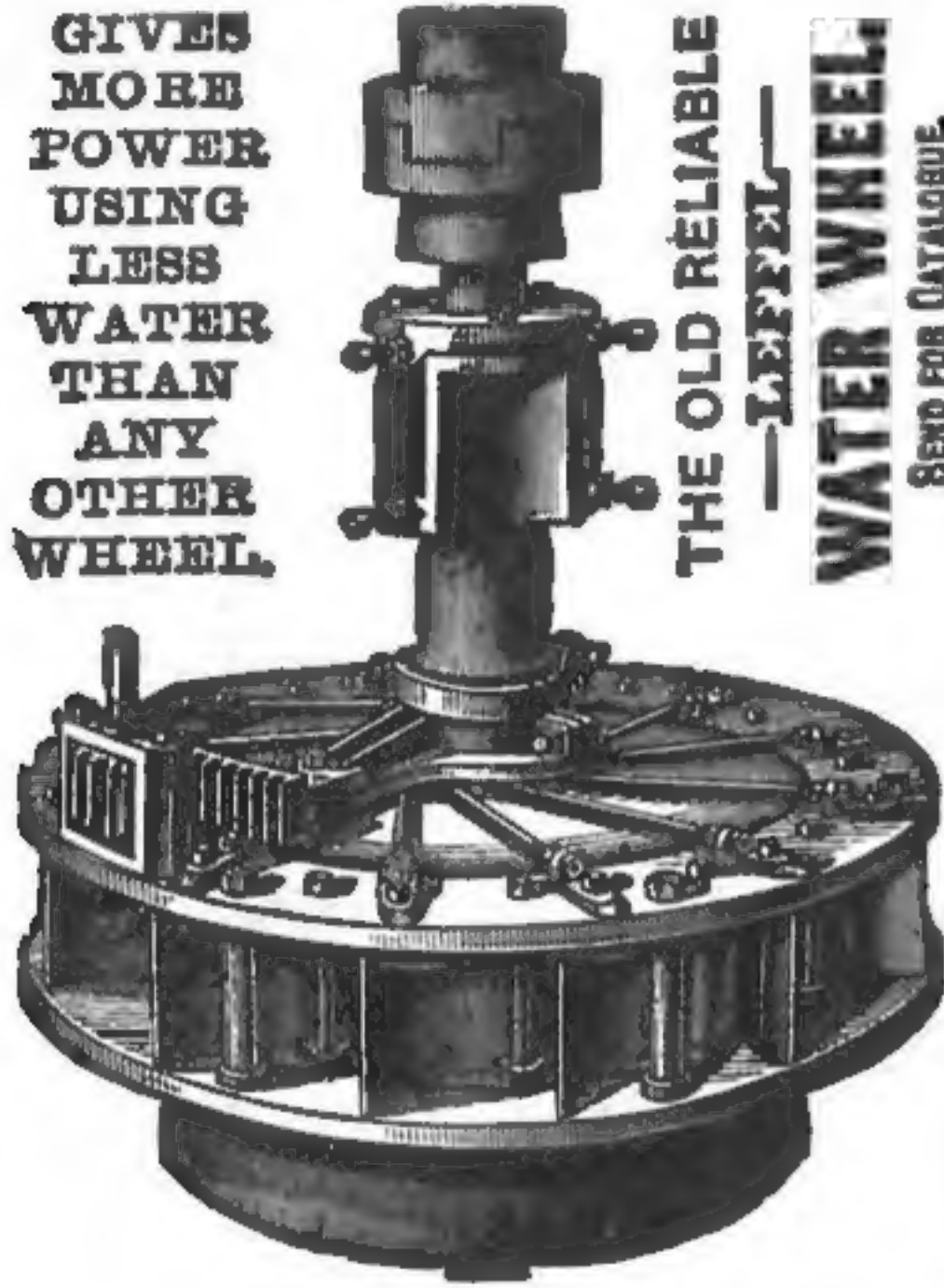
\$5,000 for Death.
\$5,000 Loss of Limbs.
\$2,500 Loss of Limb.
\$2,500 Loss of Sight.
\$1,250 Total Disability.
\$650 Loss of One Eye.
\$25 Weekly Indemnity for
26 Weeks.
One Set of Individual Registry Plates
Included.

COST.

Four Quarterly Payments, \$10.00
Annual Dues, " " " 1.00
Membership Fee, 5.00. \$11.00

IMPORTANT NOTICE.—The Traders & Travelers Accident Co. of New York desire the services of one responsible representative in each town to act as agent for the general transaction of their business. A liberal and permanent arrangement will be made with parties who can fill the above requirements. Address
C. S. SOMERVILLE, Sec'y.

GIVES
MORE
POWER
USING
LESS
WATER
THAN
ANY
OTHER
WHEEL.



THE OLD RELIABLE
—LEFFEL—
WATER WHEEL.
SEND FOR CATALOGUE.

JAMES LEFFEL & CO.
SPRINGFIELD, O., OR 110 LIBERTY ST., N.Y.

PREJUDICE Investigate the merits of the Reliance Safety Water Columns. It pays to keep posted. Many of the largest corporations have found it profitable to discard the old appliances and adopt these safeguards. There is always economy in safety. Send for illustrated price-list.

Reliance Gauge Co., 831 Sheriff St., Cleveland, Ohio.

The D&C TO MACKINAC

SUMMER TOURS.

PALACE STEAMERS. LOW RATES.

Four Trips per Week Between
DETROIT, MACKINAC ISLAND
Potoskey, Sault Ste. Marie, and Lake
Huron Way Ports.

Every Week Day Between
DETROIT AND CLEVELAND
Special Sunday Trips during June, July, August and Sept.

Double Daily Line Between
CHICAGO AND ST. JOSEPH, MICH.

OUR ILLUSTRATED PAMPHLETS
Rates and Excursion Tickets will be furnished
by your Ticket Agent, or address
E. B. WHITCOMB, G. P. A., DETROIT, MICH.,
Detroit and Cleveland Steam Nav. Co.

THE BEST AND CHEAPEST CORN AND COB CRUSHER IN THE WORLD.

All wearing parts cast of a steel mixture. Notice difference in construction. Most area where most work is done, where all other crushers have least area where most work is done. Low priced machinery is not the cheapest, considering durability and efficiency. Sent on 80 days' trial when satisfactory reference is furnished.

Please Send for Circulars.

LEFT-HAND
MILL.
DRIVEN
FROM
ABOVE.



RIGHT-HAND RUNNER.

R. C. McCULLEY, LANCASTER, PENN.

\$15

WILL BUY THE BEST AND CHEAPEST CORN & COB CRUSHER

IN THE WORLD.



Our crushers are made of a "special quality" of material that insures years of service. Thousands of these crushers are in use throughout the United States and Canada. Send for circular, giving testimonials from millers who are using them, and know a good thing when they see it.

T. B. WOOD'S SONS, CHAMBERSBURG, PA.

Manufacturers of
Shafting, Pulleys, Hangers, Mill Gearing, Etc.



BRANCH HOUSE, 1425 EAST MAIN STREET, RICHMOND, VA.



BEST STEEL SAFETY MADE FOR \$35

Easiest LADIES' Tricycle Known

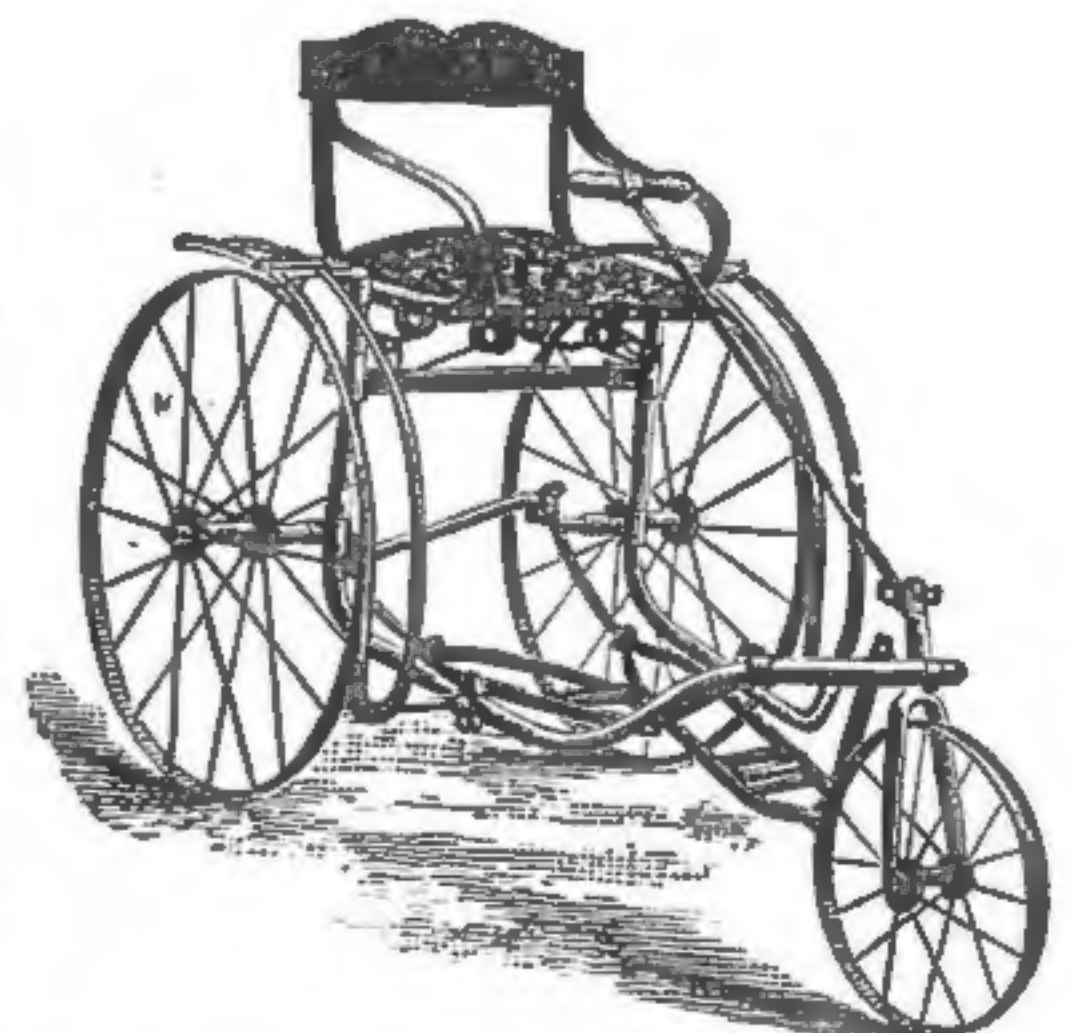
Our Tricycle the Only Machine ever Recommended by Physicians for Ladies and Girls of a Delicate Constitution.

THE BUFFALO TRICYCLE CO.

Manufacturers of Ladies' and Girls' Tricycles, Ladies' and Boys' Safety Bicycles, Etc., Etc.

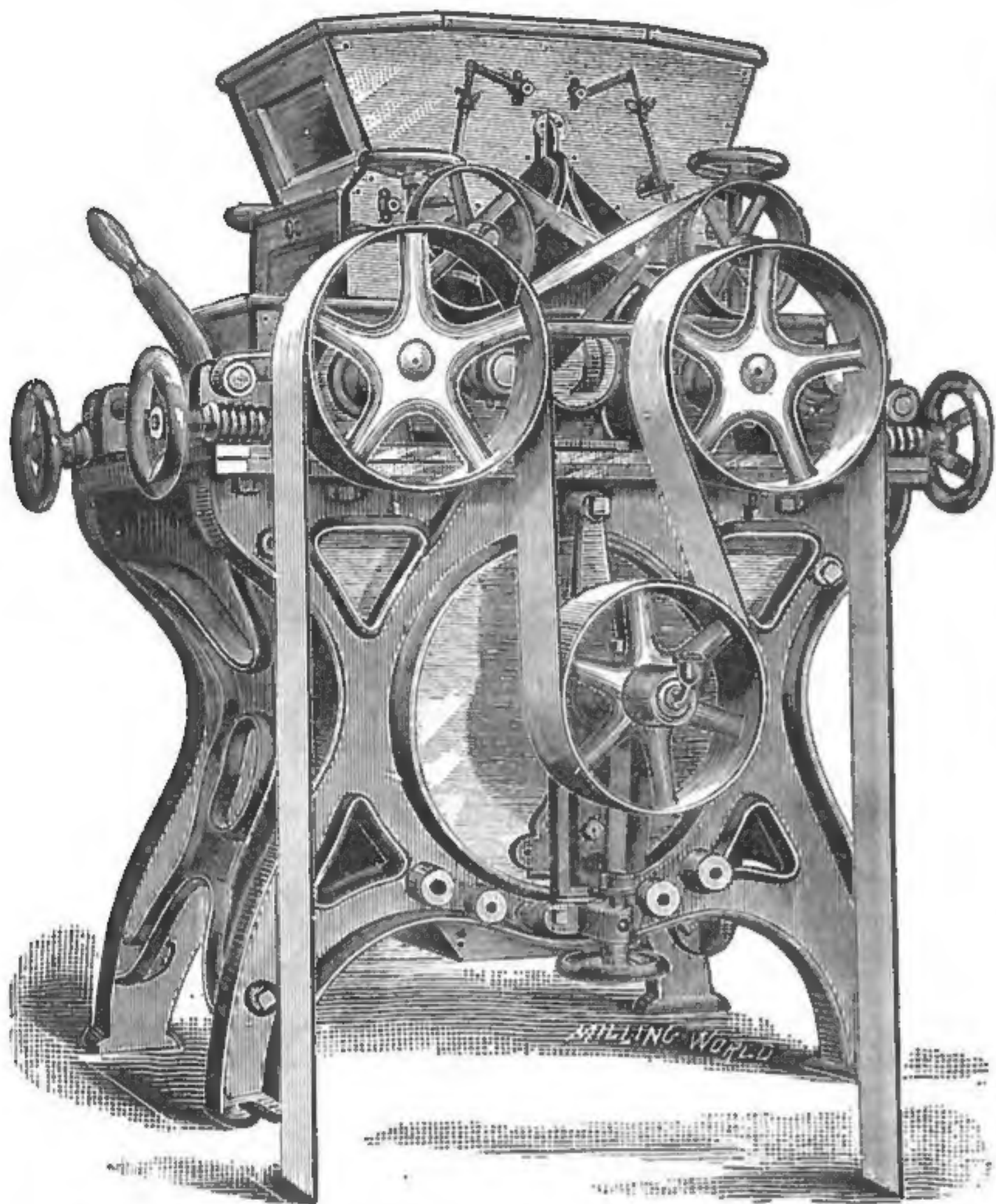
640 Linwood Ave., BUFFALO, N. Y.

SEND FOR CATALOGUE AND PRICES.



PARTIES WILL PLEASE MENTION THIS PAPER
WHEN WRITING TO ADVERTISERS.

JOHN HUTCHISON MFG. CO., Mill Builders and Mill Furnishers.



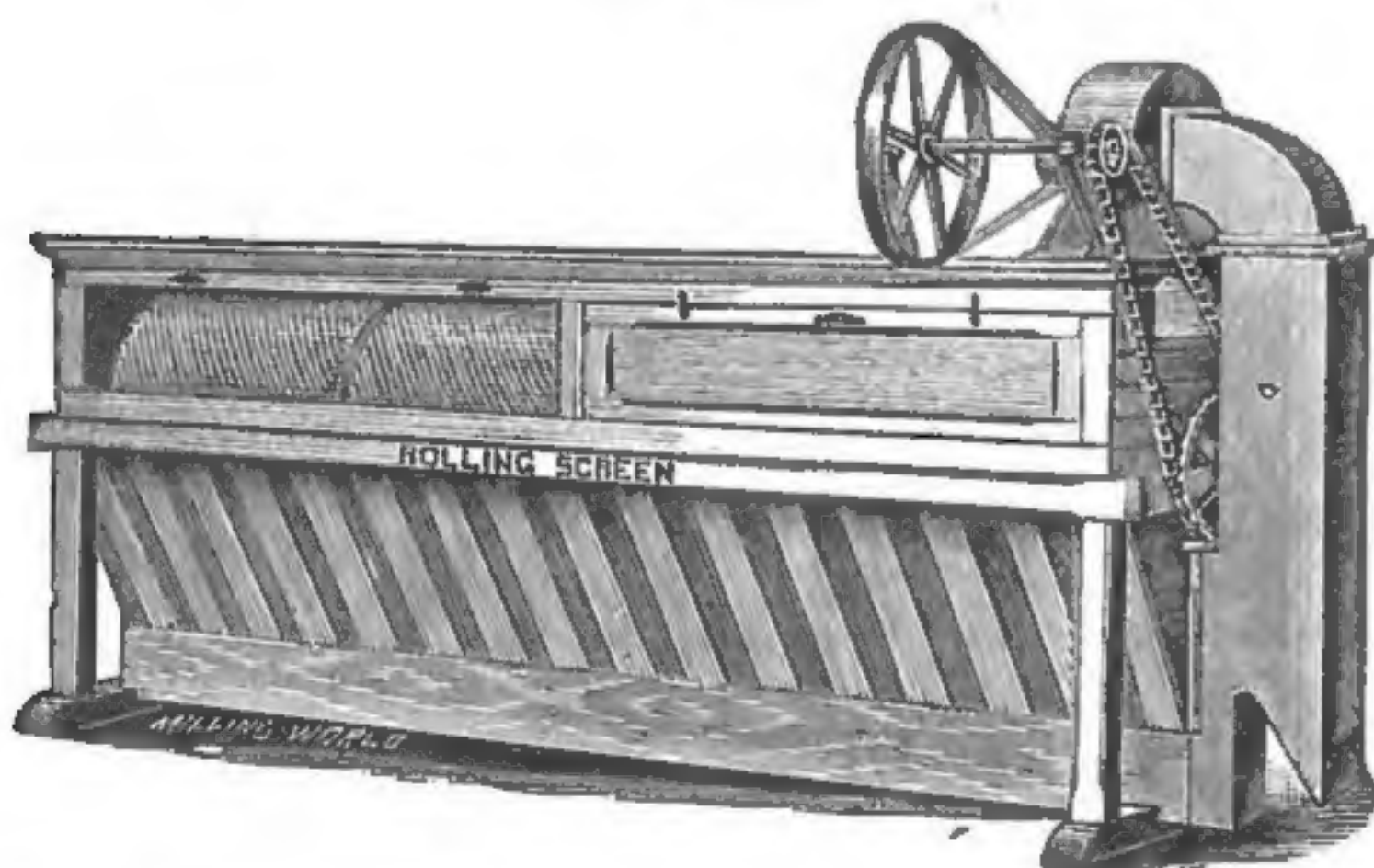
"The Rickerson." The original six inch 4 Roller Mill. We now own the patents on this mill and after greatly improving the mill manufacture them in four sizes:

6x12 inch.

6x18 inch.

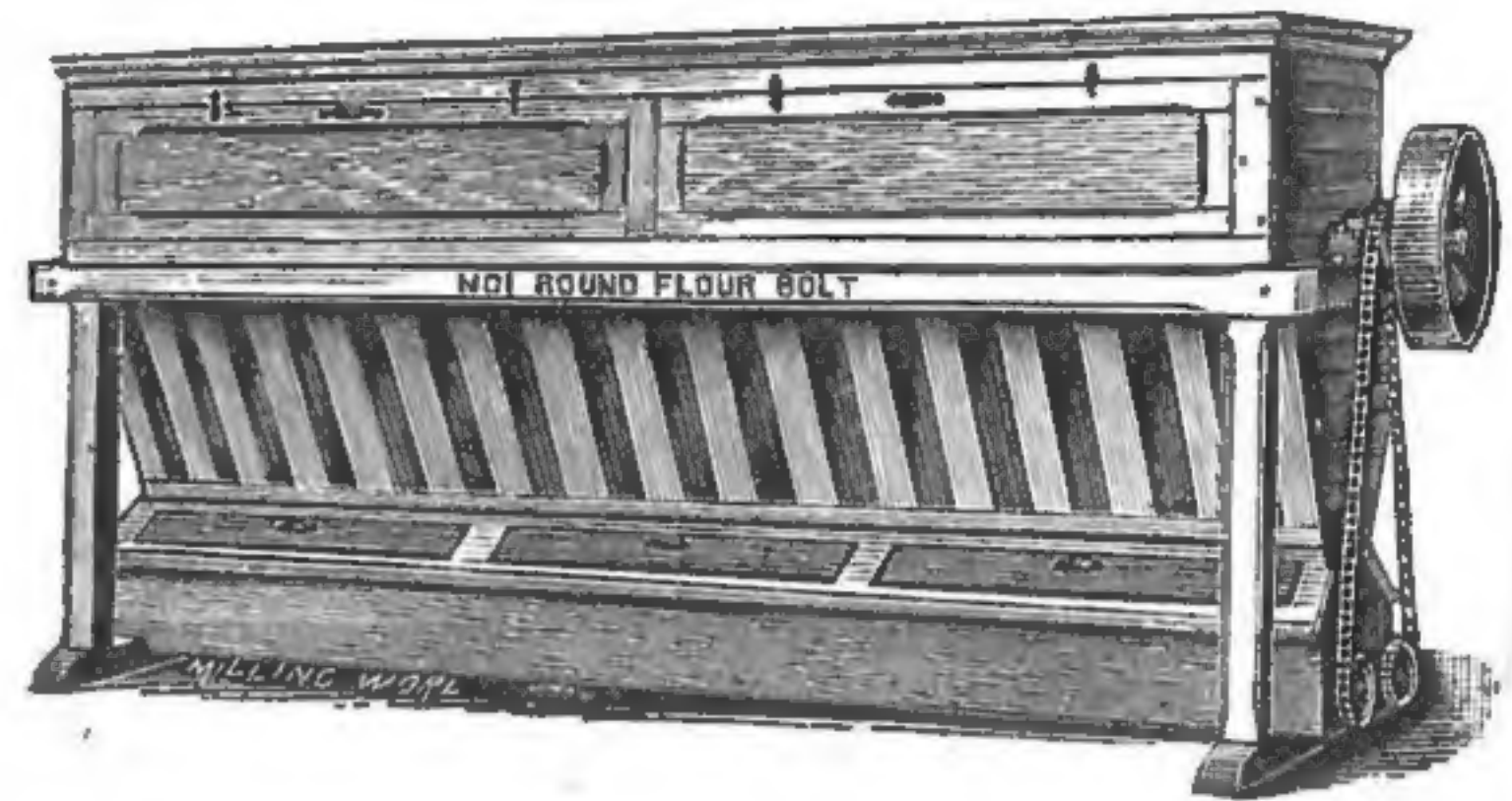
6x15 "

6x20 "

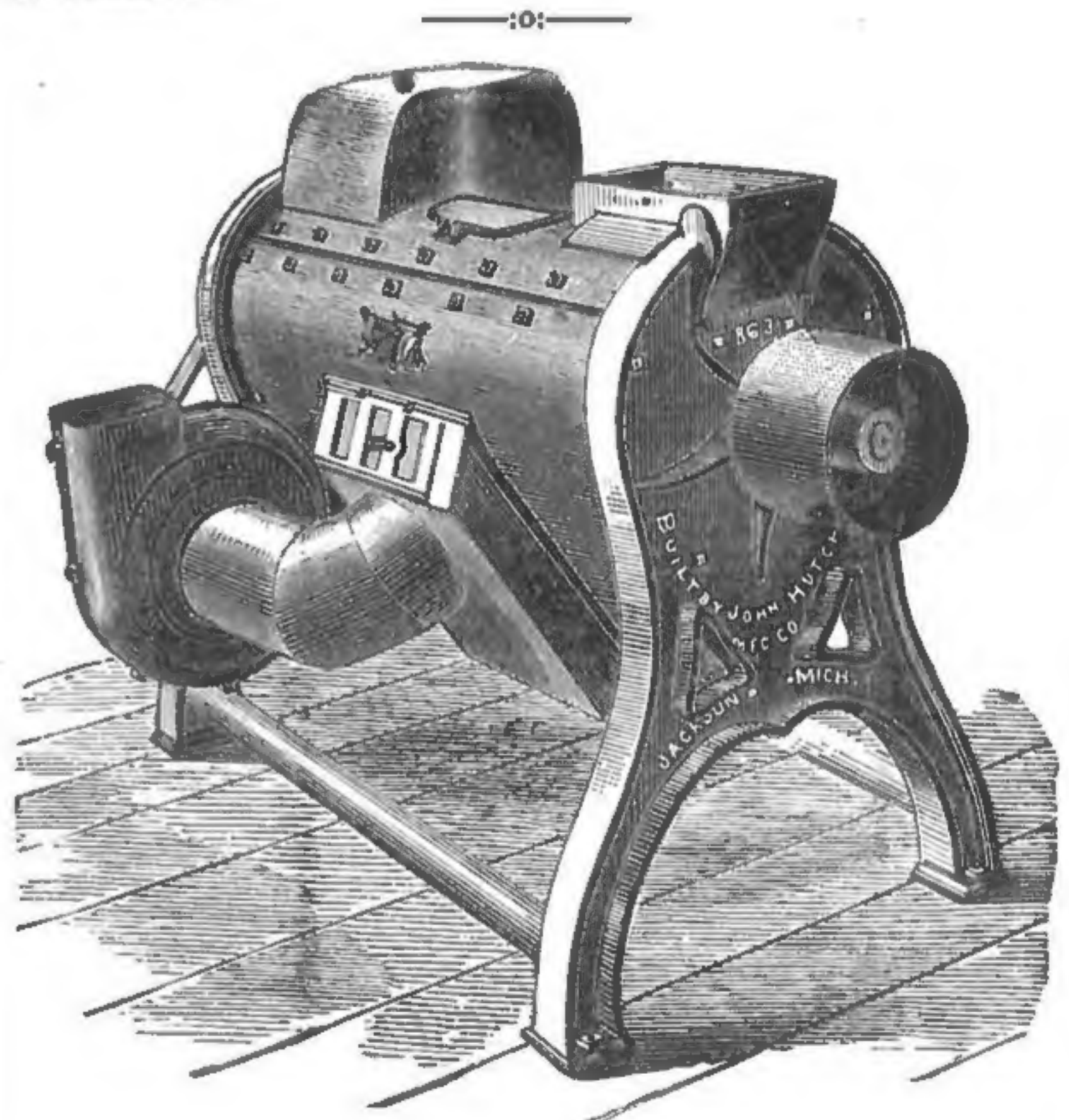


The above cut represents our New Rolling Screen, which is absolutely dustless and has as much scouring qualities as any two scouring machines now being made.

Send for Estimates for Our Full Roller Mills of any Capacity.



The above cut shows our New Round Slow Running Flour Bolt. We also build a Cylinder or Round Scalping Reel and we have lately built a number of new mills of medium capacity, using our Roller Mills, our Round Flour Bolts and Scalping Reels, getting better results than is usually obtained.



Hutchison's New Dustless Iron Corn Sheller, especially adapted for Mill and Elevator use.

—:ADDRESS ALL CORRESPONDENCE TO:—

John Hutchison Mfg. Co.

JACKSON. . . MICHIGAN.



ELEVATOR BUCKET.

✦ CORRUGATIONS ✦

What we know of corrugations can be found out by writing to US, or H. W. Caldwell, Chicago, Ill.

Stamping and Pressing of Sheet Metals for all Classes of Work. Also Tinning, Galvanizing and Japanning.

THE AVERY STAMPING CO.,
Successors to The Avery Elevator Bucket Co.,
Cleveland, Ohio. U. S. A.

H. W. Caldwell, 131 W. Washington Street, Chicago, Ill.,
General Agent.



CALDWELL'S PATENT.



SELF-TRAMMING PORTABLE MILL

BEST GRINDING MILL MADE.

BOLTING CLOTH

AND

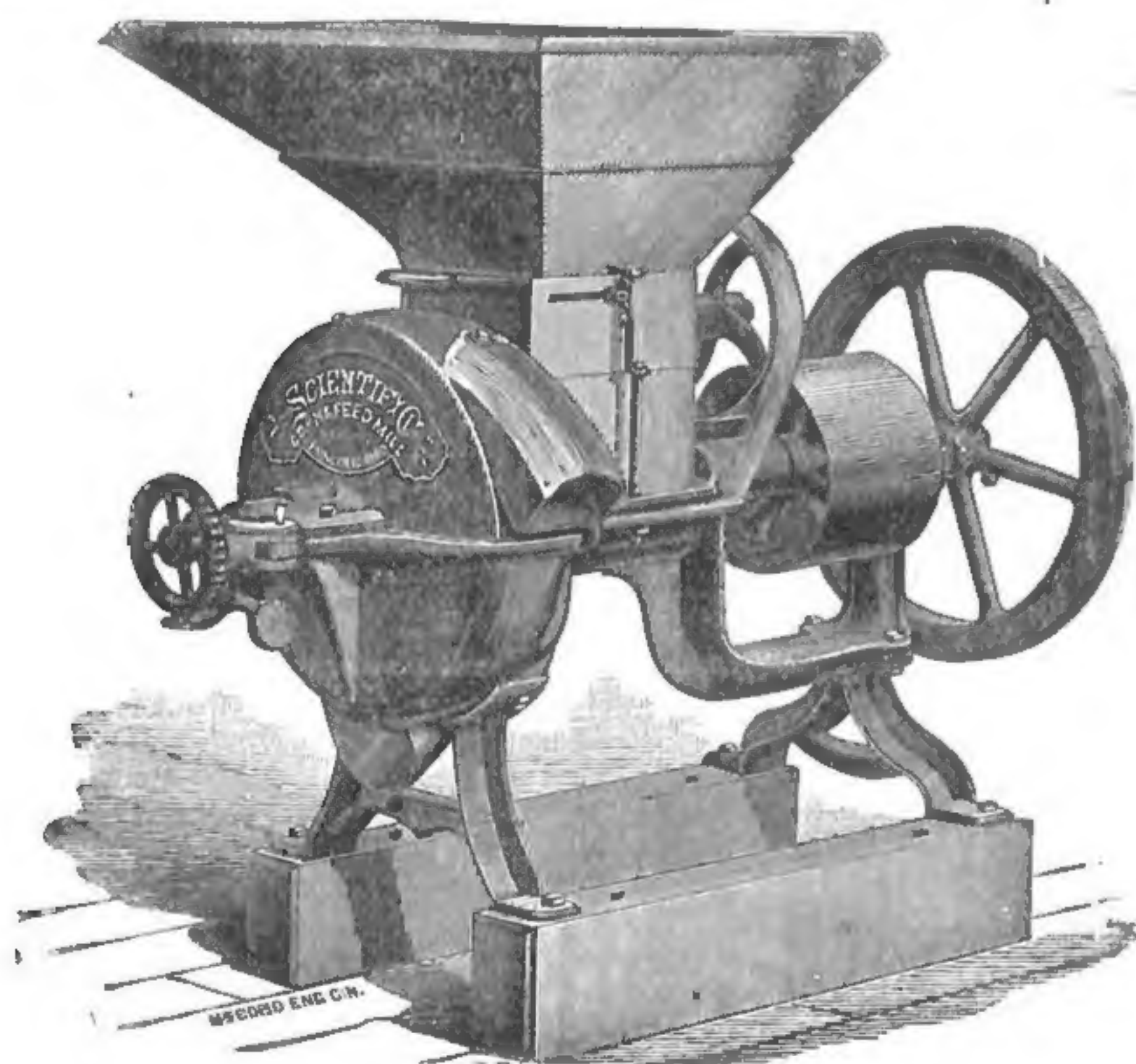
BURR AND ESOPUS MILLSTONES

WRITE FOR DISCOUNTS.

SAMUEL CAREY,

17 Broadway,

NEW YORK.



—THE SCIENTIFIC— GRINDING MILL.

POSITIVELY THE BEST MILL ON EARTH.

GRINDS PERFECTLY, EAR CORN, SHELLLED CORN,
AND ALL GRAINS.

GRINDING PLATES A SPECIAL METAL

*Hard as Steel, Guaranteed to Grind from Five to Eight
Thousand Bushels before wearing out.*

SEND FOR ILLUSTRATED CATALOGUE, PRICES, ETC.

THE FOOS MFG. CO.

SPRINGFIELD OHIO.

STILL ON TOP.



Perhaps the **HIGHEST COMPLIMENT** that could be paid the "Salem" bucket is the fact that during the past few years ITS SHAPE HAS BEEN SO CLOSELY IMITATED by other manufacturers as to infringe our patented rights, but experience reveals the **IMPERFECTIONS OF IMITATIONS**, and we therefore take it as a **FURTHER COMPLIMENT** to the "SALEM" bucket that some of its old patrons who were *Induced to Try the Imitations have now Returned to the Salem Bucket, thereby Acknowledging it to be the Most Satisfactory.* Don't be deceived by other makes of buckets that are claimed to be "Just as Good." Insist upon having the **ORIGINAL AND RELIABLE SALEM BUCKET.** All legitimate Salem buckets are plainly marked with the word

SALEM

W. J. CLARK & CO., SOLE Manufacturers SALEM, OHIO.

THORNBURGH & GLESSNER, General Agents, CHICAGO, ILL.